

## EXHIBIT 3

## CHART A

Huawei Technologies America, Inc. (“Huawei”) infringes the Patents-in-Suit by the “Huawei-Google Calling System.” The Huawei-Google Calling System includes desktop computers, laptops, tablets, smartphones, and other mobile devices as well as enterprise to small office-home office level telephony hardware, software, and/or cloud-based services manufactured and supported by Huawei and used by Google LLC (“Google”). The Huawei-Google Calling System actively encourages and enables users of Huawei devices to participate in mobile telephone roaming as described in U.S. Patent No. 8,630,234 (hereinafter the ‘234 Patent) and set forth in the asserted claims.

In the Huawei-Google Calling System, for example, users of Huawei smartphones and other mobile devices are encouraged and enabled to send messages including text, images, video and audio to others using Huawei hardware, firmware, configuration data, and/or Voice over WiFi (VoWiFi) software applications developed by Huawei for supported Huawei devices to communicate with Google-Fi owned and operated by Google LLC (hereinafter “Google”). Huawei has actively encouraged and enabled users of Huawei smartphones and other mobile devices having Huawei hardware, firmware, configuration data, and/or VoWiFi client software applications to use Google-Fi to make VoWiFi calls, for example, to use VoWiFi on Google-Fi as a voice and/or video calling feature incorporating techniques described in the ‘234 Patent. Additionally, Huawei has actively encouraged and enabled Google to use one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with a Google VoWiFi server infrastructure and running one or more Google VoWiFi server software applications to implement setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and/or video calls) communication to and from the supported Huawei devices using the Huawei hardware, firmware, configuration data, and/or VoWiFi client software applications. Huawei has actively encouraged and enabled Google to use the Google VoWiFi server software applications running on servers owned and/or operated by Google to enable VoWiFi for Huawei devices with a voice and/or video calling feature incorporating techniques described in the ‘234 Patent.

Moreover, in the Huawei-Google Calling System, for example, users of Huawei smartphones and other mobile devices are encouraged and enabled to send messages including text, images, video and audio to others using one or more Google Internet-based calling client software applications (e.g., Google Voice/Hangouts/Duo) developed by Google for supported Huawei devices. Huawei has actively encouraged and enabled users of Huawei smartphones and other mobile devices having the Google Internet-based calling client applications to use Google to make Internet-based calls and, for example, to use voice over IP (VoIP), session initiation protocol (SIP), and/or other real-time communication protocols as a voice and/or video calling feature incorporating techniques described in the ‘234 Patent. . Additionally, Huawei has actively encouraged and enabled Google to use one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with a

## CHART A

Google Internet-based calling server infrastructure running one or more Google Internet-based calling server software applications to implement setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and/or video calls) communication to and from the supported Huawei devices using the Google Internet-based calling client software applications. Huawei has actively encouraged and enabled Google to use the Google Internet-based calling server software applications running on servers owned and operated by Google to enable Internet-based calling for Huawei devices with a voice and/or video calling feature incorporating techniques described in the ‘234 Patent.

**Chart A** applies independent claim 20 of the ‘234 Patent to the Huawei-Google Calling System.

**Chart A** demonstrates that, in the Huawei-Google Calling System, Huawei actively encourages and enables Huawei devices and Google to produce an access code based on a location identifier and/or based on a location pre-associated with a mobile telephone and which is used by the mobile telephone to initiate a call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. In the Huawei-Google Calling System, for example, Huawei actively encourages and enables Huawei devices and Google to produce an access code comprising one or more portions and/or a combination of information, for example, an access code comprising information identifying one or more Internet Protocol (IP) network addresses associated with one or more calling servers and/or call session information obtained via one or more calling servers. Either individually or in combination, the IP network addresses associated with the calling servers and/or the call session information, for example, identify a communications channel usable by the mobile telephone to cause a routing controller (e.g., one or more calling servers) to establish a call to a callee using the channel. Thus, Huawei has actively encouraged and enabled Huawei devices and Google to enable mobile telephone roaming using the access code as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

**Chart A** uses one scenario of infringement as an example to demonstrate how elements of the asserted claims read on the use of a domain name system (DNS) associated with the Huawei-Google Calling System to produce one or more portions and/or combinations of information representing an access code that is based on a location identifier and/or based on a location pre-associated with the mobile telephone and that identifies one or more Internet Protocol (IP) network addresses associated with one or more calling server and/or call session information obtained via the one or more calling servers to enable mobile telephone roaming as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. The scenario set forth in **Chart A** using DNS is one example made without limitation to one or more

## **CHART A**

additional scenarios of infringement, which may be described in other charts using at least some of the components and/or processes associated with the Huawei-Google Calling System already identified in **Chart A**, further demonstrating how the asserted claims read, literally and/or under the doctrine of equivalents, on the Huawei-Google Calling System.

**CHART A****U.S. Patent No. 8,630,234**

20.	[20p] A mobile telephone apparatus comprising:	<p>The Huawei-Google Calling System includes a mobile telephone apparatus.</p> <p>In the Huawei-Google Calling System, for example, roaming with a mobile telephone as described in the '234 Patent and defined in the mobile telephone apparatus of claim 20 (e.g., a caller's mobile telephone) is performed, literally and/or under the doctrine of equivalents, by the caller's mobile telephone, an example of which includes a Huawei device configured with:</p> <ul style="list-style-type: none"> <li>• The Huawei hardware, firmware, configuration data, and/or VoWiFi software applications to communicate with the Google VoWiFi server infrastructure running one or more of the Google VoWiFi calling server software applications associated with Google-Fi; and/or</li> <li>• One or more of the Google Internet-based calling client software applications to communicate with the Google Internet-based calling server infrastructure running one or more of the Google Internet-based calling server software applications associated with the Google Internet-based calling products.</li> </ul> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates with the Google server infrastructure (whether the Google-Fi VoWiFi server infrastructure or the Google Internet-based calling server infrastructure), an example of which includes:</p> <ul style="list-style-type: none"> <li>• One or more domain name system (DNS) servers associated with the Google server infrastructure. The DNS servers provide a naming system for one or more communication networks, one or more servers, one or more services, and/or other resources associated with the Google server infrastructure. The DNS servers include one or more parts and/or portions of the Google server software applications (whether the Google VoWiFi server software and/or the Google Internet-based calling server software applications) developed and/or owned by Google to implement setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported Huawei devices. The DNS servers associate domain names used by the Huawei devices</li> </ul>
-----	--	---

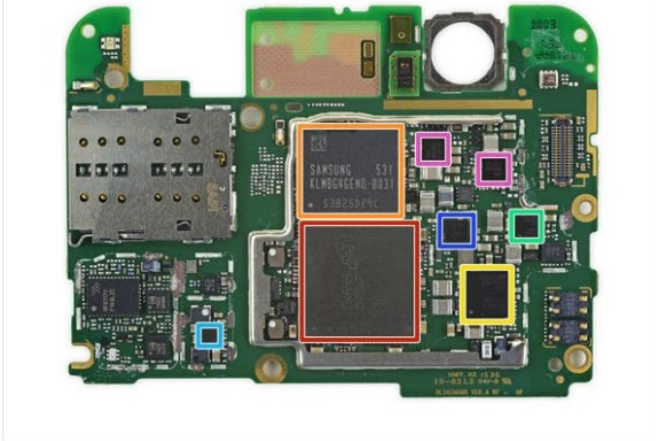
**CHART A**

		<p>with various information (such as IP network addresses) that provide access to the communication networks, servers, services, and/or other resources associated with the Google server infrastructure.</p> <ul style="list-style-type: none"> <li>• One or more calling servers associated with the Google server infrastructure. The calling servers provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported Huawei devices (whether using the Huawei hardware, firmware, configuration data, and/or VoWiFi software applications and/or the Google Internet-based calling client software applications). The calling servers include one or more parts and/or portions of the Google server software applications developed and/or operated by Google to provide access to the Huawei devices to exchange messages (including chats, group chats, images, videos, voice messages and files) and make calls (voice and video) around the world.</li> </ul> <p>In the Huawei-Google Calling System, for example, roaming with a mobile telephone is performed when Huawei actively encourages and causes the caller's mobile telephone and the Google server infrastructures to communicate to produce an access code based on a location identifier and/or based on a location pre-associated with the mobile telephone and which is used by the mobile telephone to initiate a call as described in the '234 Patent and defined in claim 20, literally and/or under the doctrine of equivalents. In the Huawei-Google Calling System, for example, the caller's mobile telephone starts a call (whether a VoWiFi call using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or an Internet-based call using the Google Internet-based calling client software applications). The caller's mobile telephone establishes communication with the Google server infrastructure and initiates the call to one or more devices and/or destinations (e.g., a callee's mobile telephone). Huawei has actively encouraged and enabled roaming with a mobile telephone using Huawei devices and Google to make VoWiFi and/or Internet-based calls as described in the '234 Patent and defined in claim 20, literally and/or under the doctrine of equivalents.</p>
--	--	--

**CHART A**

	[20a] a processor circuit;	<p>The Huawei-Google Calling System includes a mobile telephone apparatus comprising a processor circuit. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone includes a processor circuit. One example of the caller's mobile telephone is the Huawei Nexus 6p ("Nexus 6p") manufactured specifically and exclusively for Google, which includes, as part of the processor circuit, a Qualcomm Snapdragon 810 v2.1, 4x ARM Cortex-A57 MPcore + 4x ARM Cortex-A53 MPcore using an ARMv8-A (A32, A64) architecture. While the Nexus 6P is discussed in some detail in this chart, Google's support website indicates that there are other Huawei models compatible with at least Google-Fi including: Honor 8, Mate 10 Pro, Mate 20, Mate 20 Pro and 20 Lite, P20 and P20 Pro, each of which would contain a processor circuit. See: <a href="https://support.google.com/fi/answer/6224695#zipppy=%2Chuawei-models-compatible-with-fi">https://support.google.com/fi/answer/6224695#zipppy=%2Chuawei-models-compatible-with-fi</a></p>

## CHART A

		 <ul style="list-style-type: none"> <li>● We smell chips! With the motherboard free and the EMI shielding pulled away, it's time for a look at the silicon:</li> <li>● Micron MT53B384M64D4NK-062 3 GB LPDDR4 RAM, layered over Qualcomm <a href="#">Snapdragon 810 v2.1</a>, 2.0 GHz octa-core 64-bit CPU</li> <li>● Samsung <a href="#">KLM8G4GEND-B031</a> 32 GB eMMC 5.0 NAND flash</li> <li>● Qualcomm <a href="#">PM18994</a> power management IC (found in many 2015 Android smartphones including the Nexus 5X)</li> <li>● Qualcomm <a href="#">SMB1351</a> Quick Charge IC (Likely an iteration of <a href="#">SMB1358</a> found in the Nexus 5X)</li> <li>● Qualcomm <a href="#">QFE1100</a> envelope tracking IC</li> <li>● ST Microelectronics <a href="#">STM32F411CE</a> 32-bit 100 MHz <a href="#">ARM Cortex-M4</a> RISC microcontroller</li> <li>● Maxim Integrated <a href="#">MAX98925</a> audio amplifier</li> </ul> <p><a href="https://www.ifixit.com/Teardown/Nexus+6P+Teardown/51660">https://www.ifixit.com/Teardown/Nexus+6P+Teardown/51660</a>.</p>
	<p>[20b] a network interface in communication with said processor circuit; and</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus comprising a network interface in communication with said processor circuit. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone includes a network interface in communication with the processor circuit. For example, the caller's mobile telephone includes the following network interfaces:</p>



## CHART A

FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 29, 30, 66, 71)

TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48)

CDMA EV-DO Rev. A (800, 1900 MHz)

UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)

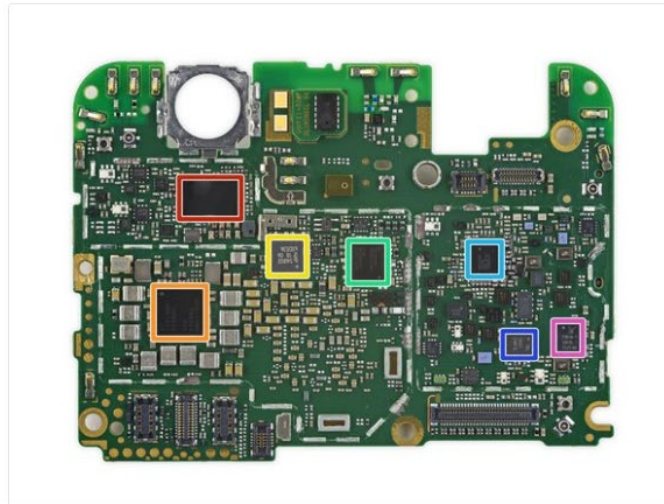
GSM/EDGE (850, 900, 1800, 1900 MHz)

Gigabit-class LTE with 2x2 MIMO and LAA4

802.11 Wi-Fi

Bluetooth wireless technology

For the Nexus 6p, the network interface includes the Qualcomm WTR3925 RF transceiver. The network interface further includes the Broadcom BCM4358 5G WiFi 802.11ac client.



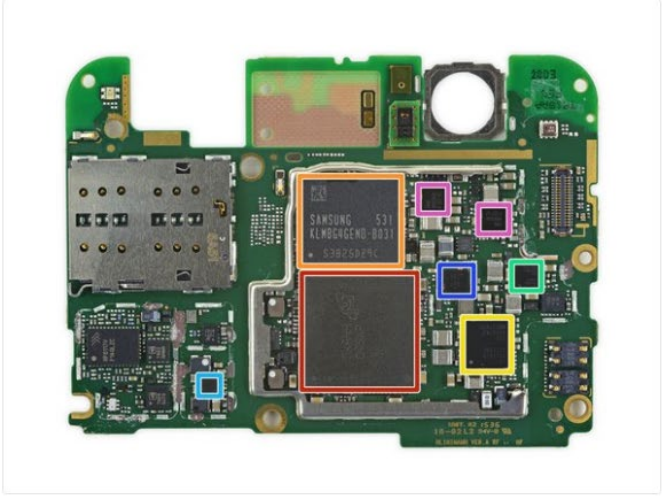
- The back of the motherboard is brimming with even more control hardware:
- Broadcom [BCM4358](#) 5G WiFi 802.11ac client
- Qualcomm [PM8994](#) power management IC (as seen in the Nexus 5X and HTC One M9)
- NXP [PN548](#) NFC controller
- Qualcomm [WCD9330](#) audio codec
- Qualcomm [WTR3925](#) RF transceiver
- RF Microdevices [RF1891](#) antenna switch module
- Skyworks [SKY77814-11](#) power amplifier module for LTE

<https://www.ifixit.com/Teardown/Nexus+6P+Teardown/51660>.

**CHART A**

<p>[20c] a computer readable medium in communication with said processor circuit and encoded with codes for directing said processor circuit to:</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus comprising a computer readable medium in communication with said processor circuit and encoded with codes for directing said processor circuit. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone includes a computer readable medium in communication with the processor circuit and encoded with codes for directing the processor circuit. The computer readable medium includes volatile memory, such as random-access memory (RAM). The computer readable medium also includes non-volatile memory, such as flash memory, to hold OS and application data.</p> <p>For the Nexus 6p, the computer readable medium includes the Micron MT53B384M64D4NK-062 3 GB LPDDR4 RAM and the Samsung KLMBG4GEND-B031 32 GB eMMC 5.0 NAND flash.</p>
--	--

## CHART A

		 <ul style="list-style-type: none"> <li>● We smell chips! With the motherboard free and the EMI shielding pulled away, it's time for a look at the silicon:</li> <li>● Micron MT53B384M64D4NK-062 3 GB LPDDR4 RAM, layered over Qualcomm Snapdragon 810 v2.1, 2.0 GHz octa-core 64-bit CPU</li> <li>● Samsung KLM8G4GEND-B031 32 GB eMMC 5.0 NAND flash</li> <li>● Qualcomm PM18994 power management IC (found in many 2015 Android smartphones including the Nexus 5X)</li> <li>● Qualcomm SMB1351 Quick Charge IC (Likely an iteration of SMB1358 found in the Nexus 5X)</li> <li>● Qualcomm QFE1100 envelope tracking IC</li> <li>● ST Microelectronics STM32F411CE 32-bit 100 MHz ARM Cortex-M4 RISC microcontroller</li> <li>● Maxim Integrated MAX98925 audio amplifier</li> </ul> <p><a href="https://www.ifixit.com/Teardown/Nexus+6P+Teardown/51660">https://www.ifixit.com/Teardown/Nexus+6P+Teardown/51660</a>.</p>
	<p>[20d] receive, from a user of the mobile telephone, a callee identifier associated with the callee;</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that receives, from a user of the mobile telephone, a callee identifier associated with the callee. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, composing a message or initiating the call begins with a user entering or selecting a callee identifier associated with a callee with which the user wishes to communicate. In the Huawei-Google Calling System, for example, the user input, which may comprise a</p>

**CHART A**

		<p>partial or complete name, email address, telephone number, or device identifier, is input directly and/or indirectly into a contact list search box, on a touch screen displaying contacts, and/or via voice command to obtain the callee identifier. In the Huawei-Google Calling System, for example, the user input associated with the caller's mobile telephone comprises one or more email addresses, device identifiers, and/or telephone numbers associated with the callee with which the user wishes to communicate. In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the email addresses, device identifiers, and/or telephone numbers associated with the callee with which the user wishes to communicate from the user input associated with the caller's mobile telephone.</p> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the email address, the device identifier, and/or the telephone number are examples of receiving the callee identifier associated with the callee as set forth in this element. Alternatively or in addition, the callee identifier could be a user name associated with the callee.</p>
	[20e-1] cause an access code request message to be transmitted to an access server	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that causes an access code request message to be transmitted to an access server. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p>

**CHART A**

		<p>In the Huawei-Google Calling System, for example upon obtaining the user name, email addresses, device identifiers, and/or the telephone numbers associated with the callee, the caller's mobile telephone communicates (or causes to be communicated) an access code request message to an access server. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) an access code request message comprising one or more parts, portions, and/or a combinations of information, such as information associated with the access code request message using one or more communications and/or a combination of communications with the Google server infrastructure, for example, one or more access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications associated with the caller's mobile telephone with one or more of the DNS servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the communications and/or the combination of communications with the DNS servers as one or more of the parts, portions, and/or a combination of information associated with the access code request message. In the Huawei-Google Calling System, for example, the DNS servers provide access to one or more parts and/or portions of the Google server software applications (whether the VoWiFi and/or Google Internet-based calling server software applications). In the Huawei-Google Calling System, for example, the DNS servers provide access to a naming service associated with one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with the Google server infrastructure and used by Huawei devices to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated)</li> </ul>
--	--	---

**CHART A**

	<p>information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the DNS servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call) using one or more packets produced (or caused to be produced) by the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone produces (or causes to be produced) the packets and communicates (or causes to be communicated) the packets directly and/or indirectly with the DNS servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone produces (or causes to be produced) the packets including one or more DNS queries that query the DNS servers for one or more IP network addresses associated with one or more of the calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query asking the DNS servers for the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query using one or more domain names associated with the Google server infrastructure to obtain the IP network addresses associated with the geographically situated calling servers. In the Huawei-Google Calling System, for example, one or more domain names and one or more blocks of IP network addresses are used by the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the IP network addresses associated with the geographically situated calling servers. Appendix A sets forth one or more domain names and one or more blocks of IP network</p>
--	--

**CHART A**

		<p>addresses and details that, based on a location associated with an initiated device, one or more communications to the DNS servers using the domain names result in obtaining one or more IP network addresses associated with geographically situated calling servers.</p> <ul style="list-style-type: none"><li>• In the Huawei-Google Calling System, for example as an alternative to the caller's mobile telephone communicating (or causing to be communicated) one or more packets with one or more of the DNS servers associated with the Google server infrastructure, the caller's mobile telephone obtains one or more IP network addresses associated with one or more of the calling servers using a database or local cache. For example, the caller's mobile telephone maintains the database or local cache in response to obtaining the IP network addresses associated with calling servers in one or more prior communications with the DNS servers. For example, the caller's mobile telephone accesses the database or local cache to obtain the IP network addresses associated with the calling servers to exchange a message or setup and initiate a VoWiFi and/or Internet-based call.</li><li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications with one or more of the calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the communications and/or the combination of communications with the calling servers as one or more of the parts, portions, and/or a combination of information associated with the access code request message. In the Huawei-Google Calling System, for example, the calling servers provide access to one or more parts and/or portions of the Google server software applications (whether the VoWiFi and/or Google Internet-based calling server software applications). In the Huawei-Google Calling System, for example, the calling servers provide access to a calling service to exchange messages (including chats, group chats, images,</li></ul>
--	--	---



**CHART A**

		<p>videos, voice messages and files) and make VoWiFi and/or Internet-based calls (voice and video) via the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call using one or more packets produced (or caused to be produced) by the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone produces (or causes to be produced) the packets and communicates (or causes to be communicated) the packets with the calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone produces (or causes to be produced) the packets including one or more call session information requests that ask the calling servers geographically situated relative to the caller's mobile telephone for call session information. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one call session information request for call session information to select and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone and the geographically situated calling servers communicate to establish the call session information using the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone. Appendix A sets forth one or more</p>
--	--	---



**CHART A**

		<p>domain names and one or more blocks of IP network addresses and details that, based on a location associated with an initiated device, the initiating device obtains the call session information from geographically situated calling servers using the IP network addresses associated with the blocks of IP network addresses. See <a href="https://support.google.com/fi/answer/6157793?hl=en">https://support.google.com/fi/answer/6157793?hl=en</a> (“Make calls over Wi-Fi”).</p> <p>Individually or in combination with other information, the caller’s mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate the information requesting the DNS servers and/or the calling servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call, are examples of causing an access code request message to be transmitted to an access server as set forth in this element.</p>
	[20e-2] to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that causes an access code request message to be transmitted to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller’s mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee’s mobile telephone.</p>

**CHART A**

<p>callee identified by the callee identifier,</p>	<p>In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or causes to be communicated) an access code request message as discussed with respect to element [20e-1]. In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or cause to be communicated) the parts, portions, and/or a combination of information associated with the access code request message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications associated with the caller's mobile telephone with one or more of the DNS servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query asking the DNS servers for the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the DNS query with the DNS servers to seek one or more IP network addresses associated with the geographically situated calling servers</li> </ul>
--	--

**CHART A**

		<p>from the blocks of IP network addressed owned by the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the DNS query with the DNS servers to obtain from the DNS servers the IP network address associated with the blocks of IP network addressed owned by the Google server infrastructure, each of which identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier.</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications with one or more of the calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one call session information request for call session information to select and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the call session information request with the geographically situated calling servers to seek the call session information, which includes the IP network addresses associated with the geographically situated calling servers and the</li> </ul>
--	--	---

**CHART A**

		<p>blocks of IP network addressed owned by the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) the call session information request with the geographically situated calling servers to obtain the calling information from the geographically situated calling servers, which identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier.</p> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate the information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call and/or the information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call, are examples of causing an access code request message to be transmitted to an access server to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier as set forth in this element.</p>
	[20e-3] said access code request message including said callee identifier and	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that causes an access code request message to be transmitted to an access server, where the access code request message includes the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish</p>

**CHART A**

		<p>communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or causes to be communicated) an access code request message as discussed with respect to element [20e-1]. In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or cause to be communicated) the parts, portions, and/or a combination of information associated with the access code request message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications associated with the caller's mobile telephone with one or more of the DNS servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query asking the DNS servers for the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone based on the location associated with</li> </ul>
--	--	---

**CHART A**

		<p>the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the DNS query, communicates (or causes to be communicated), for example, a user name, an email address, device identifier, and/or telephone number as the callee identifier as set forth in element [20d].</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications with one or more of the calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one call session information request for call session information to select and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the call session information request, communicates (or causes to be communicated), for example, a user name, an email address, device identifier, and/or telephone number as the callee identifier as set forth in element [20d].</li> </ul> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-</p>
--	--	---

**CHART A**

		<p>based calling client software applications to communicate the information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call and/or the information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call, are examples of causing an access code request message to be transmitted including a callee identifier as set forth in this element.</p>
	<p>[20e-4] a location identifier separate and distinctive from said callee identifier,</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that causes an access code request message to be transmitted to an access server, where the access code request message includes a location identifier separate and distinctive from the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or causes to be communicated) an access code request message as discussed with respect to element [20e-1]. For example, the caller's mobile telephone communicates with one or more access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications associated with the caller's mobile telephone with one or more of the DNS servers</li> </ul>

**CHART A**

associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query asking the DNS servers for the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the DNS query, communicates (or causes to be communicated) one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier identifying a location of the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the DNS query, communicates (or causes to be communicated) the IP network addresses as separate and distinctive from the callee identifier as set forth in element [20d].

- In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications with one or more of the calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one call session information request for call session information to select



**CHART A**

and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the call session information request, communicates (or causes to be communicated) one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or a current or pre-associated location information associated with the caller's mobile telephone as a location identifier identifying a location of the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the call session information request, communicates (or causes to be communicated) the IP network addresses and/or the current or pre-associated location information associated with the caller's mobile telephone as separate and distinctive from the callee identifier as set forth in element [20d].

Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application to communicate the information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call and/or the information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call, are examples of causing an access code request message to be transmitted including a location identifier separate and distinctive from the callee identifier as set forth in this element.

**CHART A**

<p>[20e-5] said location identifier identifying a location of the mobile telephone;</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that causes an access code request message to be transmitted to an access server, where the access code request message includes a location identifier identifying a location of the mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or causes to be communicated) an access code request message as discussed with respect to element [20e-1]. In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate (or cause to be communicated) the parts, portions, and/or a combination of information associated with the access code request message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications associated with the caller's mobile telephone with one or more of the DNS servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the DNS servers to provide access to the communication networks, the servers, the services, and/or</li> </ul>
---	---

**CHART A**

		<p>the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one DNS query asking the DNS servers for the IP network addresses associated with the calling servers geographically situated relative to the caller's mobile telephone based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the DNS query, communicates (or causes to be communicated) one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier identifying a location of the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the DNS query, communicates (or causes to be communicated) the IP network addresses as separate and distinctive from the callee identifier as set forth in element [20d].</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with causing an access code request message to be transmitted to an access server, the caller's mobile telephone transmits (or causes to be transmitted) the communications and/or the combination of communications with one or more of the calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) at least one call session information request for call session information to select and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an</li> </ul>
--	--	---

**CHART A**

		<p>Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the call session information request, communicates (or causes to be communicated) one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or a current or pre-associated location information associated with the caller's mobile telephone as a location identifier identifying a location of the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone, using the call session information request, communicates (or causes to be communicated) the IP network addresses and/or the current or pre-associated location information associated with the caller's mobile telephone as separate and distinctive from the callee identifier as set forth in element [20d].</p> <p>The IP network addresses directly and/or indirectly associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, for example, as one or more absolute and relative locations:</p> <ul style="list-style-type: none"> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to the caller's mobile telephone by a service provider, such as a wireless carrier or Internet Service Provider (ISP);</li> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a router by a service provider, such as a wireless carrier or ISP, and through which the caller's mobile telephone directly or indirectly communicates with the Google server infrastructure;</li> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a proxy server by a service provider independent of the Google server infrastructure, such as a wireless carrier or ISP, and which is physically located at an office/data</li> </ul>
--	--	---

**CHART A**

		<p>center owned or leased by the service provider or a customer of the service provider and through which the caller's mobile telephone directly or indirectly communicates with the Google server infrastructure;</p> <ul style="list-style-type: none"> <li>• a relative geographic location associated with the caller's mobile telephone, which is identified using a location physically or logically relative to the Google server infrastructure by an IP network address assigned by a service provider independent of the Google server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Google server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Google server infrastructure;</li> <li>• a proximate location associated with the caller's mobile telephone, which is identified using a location physically or logically approximate to the Google server infrastructure by an IP network address assigned by a service provider independent of the Google server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Google server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Google server infrastructure.</li> </ul> <p>The current or pre-associated location information associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, such as one or more absolute and relative locations as:</p> <ul style="list-style-type: none"> <li>• a physical location, such as a street address, latitude/longitude, and GPS coordinates.</li> <li>• a logical or virtual location, such as a communications network, Internet Service Provider, Wireless Service Provider, and Wireless Carrier.</li> </ul> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to communicate the information requesting the DNS servers to</p>
--	--	--

**CHART A**

		<p>provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call and/or the information requesting the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call, are examples of causing an access code request message to be transmitted including a location identifier identifying a location of the mobile telephone as set forth in this element.</p>
	<p>[20f-1] receive an access code reply message from the access server in response to said access code request message,</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that receives an access code reply message from the access server in response to said access code request message. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message from the access server in response to the access code request message as set forth in elements [20e et seq]. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message comprising one or more parts, portions, and/or a combination of information. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using one or more communications and/or a combination of communications with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using the</p>

**CHART A**

		<p>communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the DNS servers. In the Huawei-Google Calling System, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with the DNS servers as one or more of the parts, portions, and/or a combination of information associated with the access code reply message. In the Huawei-Google Calling System, for example, the DNS servers provide access to a naming service associated with one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with the Google server infrastructure and used by Huawei devices to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call using one or more packets produced (or caused to be produced) by one or more of the DNS servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the packets including one or</li> </ul>
--	--	---

**CHART A**

more DNS replies that respond to the DNS queries for the IP network addresses associated with the calling servers using one or more domain names associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated calling servers based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify to the caller's mobile telephone one or more calling servers that are geographically situated with respect to the location associated with caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated calling servers). In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify the geographically situated calling servers to the caller's mobile telephone based on the location associated with the IP network address associated with the caller's mobile telephone. Additionally, in the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify the geographically situated calling servers to the caller's mobile telephone as having one or more communications channels through which communications between the caller's mobile telephone and the callee can be conducted (via identifying the IP network addresses associated with the geographically situated calling servers).

- In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the geographically situated calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for



**CHART A**

	<p>example, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications with the calling servers as one or more of the parts, portions, and/or a combination of information associated with the access code reply message. In the Huawei-Google Calling System, for example, the calling servers provide access to a calling service to exchange messages (including chats, group chats, images, videos, voice messages and files) and make VoWiFi and/or Internet-based calls (voice and video) via the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) information produced by the calling servers to provide access to exchange a message and setup and initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the information produced by the calling servers to provide access to exchange a message and setup and initiate a VoWiFi and/or Internet-based call using one or more packets produced (or caused to be produced) by the calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the packets communicated (or caused to be communicated) by the calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the packets including call session information to select and connect to a calling gateway, establish signaling, establish a media port, provide connectivity negotiation with the calling gateway and/or the callee's mobile telephone using peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a VoWiFi and/or an Internet-based call, a VoWiFi and/or an Internet-based group/conference call, and/or a PSTN call with the callee identified by the callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to identify, to the caller's mobile telephone, the calling servers as geographically situated with respect to the caller's mobile</p>
--	---

**CHART A**

		<p>telephone using the IP network addresses associated with the geographically situated calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information based on the geographic location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee can be conducted.</p> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, are examples of receiving an access code reply message from an access server in response to the access code request message as set forth in this element.</p>
	[20f-2] said access code reply message including an access code different from said callee identifier and	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that receives said access code reply message including an access code different from said callee identifier. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p>

**CHART A**

		<p>In the Huawei-Google Calling System for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message from the access server as set forth in element [20f-1] in response to the access code request message as set forth in elements [20e et seq]. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message comprising one or more parts, portions, and/or a combination of information. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using one or more communications and/or a combination of communications with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the DNS servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply that identifies the IP network addresses associated with one or more geographically situated calling servers based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be</li> </ul>
--	--	--

**CHART A**

		<p>obtained) the DNS reply where the DNS servers identify to the caller's mobile telephone one or more calling servers that are geographically situated with respect to the location associated with caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated calling servers). In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the IP network addresses associated with the geographically situated calling servers are separate and distinctive from the callee identifier as set forth in element [20d].</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the geographically situated calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) information produced by the calling servers to provide access to exchange a message and setup and initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to identify, to the caller's mobile telephone, the calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated calling servers, which are different from the callee identifier as discussed with respect to element [20d]. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee can be conducted, which are different from the callee identifier as discussed with respect to element [20d].</li></ul>
--	--	--

**CHART A**

		<p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, are examples of receiving an access code reply message including an access code different from the callee identifier as set forth in this element.</p>
	<p>[20f-3] associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and</p>	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that receives said access code reply message including an access code associated with said location identifier and/or associated with a location pre-associated with the mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message from the access server as set forth in element [20f-1] in response to the access code request message as set forth in elements [20e et seq]. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message comprising one or more parts, portions, and/or a combination of information. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using one or more</p>

**CHART A**

	<p>communications and/or a combination of communications with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the DNS servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply that identifies the IP network addresses associated with one or more geographically situated calling servers based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify to the caller's mobile telephone one or more calling servers that are geographically situated with respect to the location associated with caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated calling servers). In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify to the caller's mobile telephone identify the IP network addresses associated with the geographically situated calling servers based on using one or more IP network addresses directly and/or indirectly</li></ul>
--	---

**CHART A**

		<p>associated with the caller's mobile telephone and/or a location pre-associated with the mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers associate the IP network addresses associated with the geographically situated calling servers with the IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or the location pre-associated with the mobile telephone.</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the geographically situated calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) information produced by the calling servers to provide access to exchange a message and setup and initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to communicate using the IP network addresses associated with the geographically situated calling servers based on the IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or the location pre-associated with the mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to communicate using one or more communications channels through which communications between the caller's mobile telephone and the callee can be conducted based on the IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or the location pre-associated with the mobile telephone.</li></ul>
--	--	---

**CHART A**

	Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, are examples of receiving an access code reply message including an access code associated with a location identifier and/or associated with a location pre-associated with the mobile telephone as set forth in this element.
[20f-4] wherein said access code expires after a period of time; and	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that receives said access code reply message including an access code, wherein said access code expires after a period of time. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message from the access server as set forth in element [20f-1] in response to the access code request message as set forth in elements [20e et seq]. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) an access code reply message comprising one or more parts, portions, and/or a combination of information. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions,</p>



**CHART A**

and/or a combination of information associated with the access code reply message using one or more communications and/or a combination of communications with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the parts, portions, and/or a combination of information associated with the access code reply message using the communications and/or the combination of communications with one or more access servers and/or a combination of access servers associated with the Google server infrastructure:

- In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the DNS servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or an Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply that identifies the IP network addresses associated with one or more geographically situated calling servers based on the location associated with the caller's mobile telephone. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers identify to the caller's mobile telephone one or more calling servers that are geographically situated with respect to the location associated with caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated calling servers). In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply including a time-to-live (TTL) value. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to

**CHART A**

		<p>be obtained) the DNS reply where the DNS servers assign the TTL value to the DNS reply messages resolving various information (such as IP network addresses) that facilitate communication with the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the DNS reply where the DNS servers assign the TTL values to one or more IP network addresses associated with the calling servers, indicating that validity of the responses resolving the IP network addresses expires after a period of time.</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with receiving an access code reply message from the access server in response to the access code request message, the caller's mobile telephone obtains (or causes to be obtained) the communications and/or the combination of communications associated with one or more of the geographically situated calling servers associated with the Google server infrastructure. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) information produced by the calling servers to provide access to exchange a message and setup and initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to communicate using the IP network addresses associated with the geographically situated calling servers for a period of time, which expires. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information to communicate using one or more communications channels through which communications between the caller's mobile telephone and the callee can be conducted for a period of time, which expires. In the Huawei-Google Calling System, for example, the caller's mobile telephone obtains (or causes to be obtained) the call session information where the calling servers explicitly and/or implicitly establish a session time using the call session information. In the Huawei-Google Calling System, for example, the caller's mobile</li></ul>
--	--	---

**CHART A**

		<p>telephone obtains (or causes to be obtained) the call session information where the calling servers establish the session time using the call session information to indicate that validity of a message or a VoWiFi and/or Internet-based call expires after a period of time, such as after a predetermined time or at the end of a session.</p> <p>Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to obtain the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, are examples of receiving an access code reply message including an access code that expires after a period of time as set forth in this element.</p>
	[20g] initiate a call using said access code to identify the callee.	<p>The Huawei-Google Calling System includes a mobile telephone apparatus that initiates a call with the mobile telephone using the access code to identify the callee. In the Huawei-Google Calling System, for example, the caller's mobile telephone includes and/or performs this element to use the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to establish communication with the Google server infrastructure and initiate the VoWiFi and/or Internet-based call to the callee's mobile telephone.</p> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone communicates (or causes to be communicated) an access code request message with the Google server infrastructure as discussed with respect to elements [20e et seq]. In the Huawei-Google Calling System, for example, the caller's mobile</p>

**CHART A**

	<p>telephone obtains (or causes to be obtained) an access code request message that includes an access code from the Google server infrastructure as discussed with respect to elements [20f et seq]. In the Huawei-Google Calling System, for example, the caller's mobile telephone establishes (or causes to be established) a VoWiFi and/or Internet-based call using the access code to identify the callee. In the Huawei-Google Calling System, for example, the caller's mobile telephone establishes (or causes to be established) the VoWiFi and/or Internet-based call using the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, for example, the caller's mobile telephone establishes (or causes to be established) a VoWiFi and/or Internet-based call using the access code comprising, either individually or in combination with other information:</p> <ul style="list-style-type: none"> <li>• The information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call; and/or</li> <li>• The information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call.</li> </ul> <p>In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the DNS servers to obtain information providing access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, such as the IP addresses associated with the geographically situated calling servers. In the Huawei-Google Calling System, for example, the caller's mobile telephone uses the geographically situated call servers to obtain information providing access to exchange a message or setup</p>
--	---

**CHART A**

and initiate a VoWiFi and/or Internet-based call, such as the call session information. In the Huawei-Google Calling System, for example, the caller's mobile telephone establishes (or causes to be established) the VoWiFi and/or Internet-based call using the IP addresses associated with the geographically situated calling servers and the call session information. In the Huawei-Google Calling System, for example, the caller's mobile telephone initiates and establishes the VoWiFi and/or Internet-based call using the access code to identify the callee when the VoWiFi and/or Internet-based call is made using the IP addresses associated with the geographically situated calling servers resolved by the DNS servers and thus allocated by the Google server infrastructure for calls to the callee. In the Huawei-Google Calling System, for example, the access code may be combined with additional information that identifies the callee. In the Huawei-Google Calling System, for example, the caller's mobile telephone initiates and establishes the VoWiFi and/or Internet-based call using the access code to identify the callee when the VoWiFi and/or Internet-based call using the IP addresses associated with the geographically situated calling servers and the call session information obtained from the geographically situated calling servers. In the Huawei-Google Calling System, for example, the ability to successfully place a VoWiFi and/or Internet-based call to the callee inherently requires identifying the callee.

Individually or in combination with other information, the caller's mobile telephone using the Huawei hardware, firmware, configuration data, and/or VoWiFi software application and/or the Google Internet-based calling client software applications to initiate VoWiFi and/or Internet-based call using the information produced by the DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Google server infrastructure to exchange a message or setup and initiate a VoWiFi and/or Internet-based call and/or the information produced by the calling servers to provide access to exchange a message or setup and initiate a VoWiFi and/or Internet-based call, are examples

**CHART A**

of initiating a call with the mobile telephone using the access code to identify the callee as set forth in this element.

The Huawei-Google Calling System enables mobile telephone roaming as described in the '234 Patent and defined in claim 20, literally and/or under the doctrine of equivalents. The Huawei-Google Calling System uses access code request/response messages to produce an access code useable by the mobile telephone to initiate a call to a callee. In the Huawei-Google Calling System, the access code is based on a location identifier and/or based on a location pre-associated with the mobile telephone. The access code, alone or in combination with other information for example, identifies an IP address associated with one or more calling servers having a communication channel through which the caller's mobile telephone may initiate a VoWiFi and/or Internet-based call. In the Huawei-Google Calling System, an access code comprises information or a combination of information, such as one or IP addresses associated with one or more calling servers (having communication channels for VoWiFi and/or Internet-based calls between mobile telephones) and/or call session information provided by the calling servers that enables a local call to be made to a callee. The communications channels also can connect the caller's mobile telephone with other devices using telephone lines in a Public Switched Telephone Network (PSTN). The calling servers can direct calls that are received on the communications channels to a gateway leading to the PSTN. The calling servers use the communications channels to cooperate with an IP network and the gateway to the PSTN to cause a call involving the caller's mobile telephone to be routed through the IP network and continue to the PSTN. The communication channels provided by the calling servers provide the benefit of a local calling area associated with the caller's mobile telephone, both over the IP network and the PSTN. The expression "local calling area" may refer generally to where calls may be placed by callers to the PSTN within the local calling area at either no additional charge or at a lower additional charge than would be required for calls to numbers that are outside of the local calling area. Furthermore, the expression "local calling area" herein may refers to

**CHART A**

		where calls may be placed by callers to an IP network within a local calling area that minimizes transmission times over the IP network.
--	--	--

## CHART A

### APPENDIX A

**Appendix A** demonstrates that, in the Huawei-Google Calling System, direct infringement occurs by using Huawei devices with the following Google server infrastructures to produce an access code based on a location identifier and/or based on a location pre-associated with a mobile telephone and which is used by the Huawei devices and Google to initiate a VoWiFi and/or Internet-based call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

#### **Google-Fi**

In the Huawei-Google Calling System, Huawei actively encourages and enables Huawei devices and Google to initiate a VoWiFi call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. In the Huawei-Google Calling System, for example, the caller’s mobile telephone (e.g., a Huawei Nexus 6p manufactured by Huawei for use by Google with Google Fi) uses the Huawei and/or Google-Fi hardware, firmware, configuration data, and/or VoWiFi software application to communicate at least one DNS query to the DNS servers associated with the Google VoWiFi server infrastructure to seek one or more IP network addresses associated with geographically situated calling servers identified associated with the Google VoWiFi server infrastructure using at least the following exemplary domain name(s):

- epdg.epc.mnc260.mcc310.pub.3gppnetwork.org

In the Huawei-Google Calling System, for example, the DNS servers communicate to Huawei devices one or more DNS replies in response to the DNS queries. In the Huawei-Google Calling System, for example, the DNS servers communicate one or more IP network addresses associated with geographically situated calling servers to use to initiate the VoWiFi call in at least the following exemplary block(s) of IP network addresses assigned to the Google server infrastructure and owned or operated by Google:

- 208.54.0.0/17

In the Huawei-Google Calling System, for example, the DNS servers communicate to the Huawei devices the IP network addresses associated with the geographically located calling servers to use to initiate the VoWiFi call based on a location identifier and/or based on a location pre-associated with the Huawei devices.



## CHART A

In a set of tests associated with the scenario set forth in **Chart A** using DNS, an initiating device associated with an IP network address allocated by an Internet service provider within the following geographic regions communicated one or more DNS requests to the DNS servers using the above domain names. **Appendix A** sets forth that DNS replies in response to DNS requests made to the DNS servers by the initiating device (e.g., by contacting the Google public DNS server at an IP address of 8.8.8.8) result in the initiating device obtaining, from the DNS servers, the IP network addresses associated with the geographically located calling servers to use to initiate the VoWiFi call based on a location associated with the IP network address allocated to the initiating device. In the Huawei-Google Calling System, for example, the initiating device also obtains the same IP network addresses associated with the geographically located calling servers to use to initiate the VoWiFi call based on a location associated with the IP network address allocated to the initiating device by the initiating device directly contacting the DNS servers associated with Google-Fi.

**Appendix A** sets forth that, in the Huawei-Google Calling System, the IP network addresses associated with the calling servers across geographic locations in the following table are being selected based on a location associated with the IP network address allocated to the initiating device. The following table provides an example of the IP network addresses returned by the DNS servers (together with a count, if available, indicating the number of times each unique IP address was resolved by the DNS servers).

California	Florida
epdg.epc.mnc260.mcc310.pub.3gppnetwork.org (epdg.epc.geo.mnc260.mcc310.pub.3gppnetwork.org)	epdg.epc.mnc260.mcc310.pub.3gppnetwork.org (epdg.epc.geo.mnc260.mcc310.pub.3gppnetwork.org)
208.54.148.227	208.54.44.163
208.54.159.227	208.54.83.96
208.54.2.163	208.54.85.64
208.54.2.67	
208.54.39.3	
208.54.39.35	

### **Google Hangouts**

## CHART A

Huawei actively encourages and enables Huawei devices and Google to initiate an Internet-based call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. In the Huawei-Google Calling System, for example, the caller’s mobile telephone (e.g., a Huawei Nexus 6p manufactured by Huawei for use by Google with Google Voice/Hangouts/Duo) uses the Google Internet-based calling client software applications to communicate at least one DNS query to the DNS servers associated with the Google Internet-based calling server infrastructure to seek one or more IP network addresses associated with one or more geographically situated calling servers identified using one or more of the following domain names:

- googleapis.com
- googlevideo.com

In the Huawei-Google Calling System, for example, the DNS servers communicate to the Huawei devices one or more DNS replies in response to the DNS queries. For example, the DNS servers communicate one or more IP network addresses associated with geographically situated calling servers to use to initiate the Internet-based call in the following one or more blocks of IP network addresses assigned to the Google server infrastructure and owned or operated by Google:

- 172.217.0.0/16
- 216.58.192/19

Thus, the DNS servers communicate to the Huawei devices the IP network addresses associated with the geographically located calling servers to initiate the Internet-based call based on a location identifier and/or based on a location pre-associated with the Huawei devices.

In a set of tests associated with the scenario set forth in **Chart A** using DNS, an initiating device associated with an IP network address allocated by an Internet service provider within the following geographic regions communicated one or more DNS requests to the DNS servers using the above domain names. **Appendix A** sets forth that DNS replies in response to DNS requests made to the DNS servers by the initiating device (e.g., by contacting the Google public DNS server at an IP address of 8.8.8.8) result in the initiating device obtaining, from the DNS servers, the IP network addresses associated with the geographically located calling servers to initiate the Internet-based call based on a location associated with the IP network address allocated to the initiating device. In the Huawei-Google Calling System, for example, the initiating device also obtains the same IP

## CHART A

network addresses associated with the geographically located calling servers to initiate the Internet-based call based on a location associated with the IP network address allocated to the initiating device by the initiating device directly contacting the DNS servers associated with Google Hangouts.

**Appendix A** sets forth that, in the Huawei-Google Calling System, the IP network addresses associated with the calling servers across geographic locations in the following table are being selected based on a location associated with the IP network address allocated to the initiating device. The following table provides an example of the IP network addresses returned by the DNS servers (together with a count, if available, indicating the number of times each unique IP address was resolved by the Hangouts DNS servers).

California	Florida
googleapis.com	googleapis.com
googlevideo.com	googlevideo.com
216.58.194.196	172.217.3.132
172.217.6.68	172.217.8.100

## CHART A

### APPENDIX B

**Appendix B** demonstrates that, in the Huawei-Google Calling System, Huawei purposefully caused or encouraged infringement using Huawei devices with the Google server infrastructure (whether the Google VoWiFi server infrastructure and/or the Google Internet-based calling server infrastructure) to produce an access code based on a location identifier and/or based on a location pre-associated with a mobile telephone and which is used by the Huawei devices and Google to initiate a VoWiFi and/or Internet-based call as described in the '234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

For example, Huawei actively encourages and enables users of Huawei devices on the Huawei website through one or more electronic storefronts to purchase and use Huawei devices with Google. Huawei sells or has sold on their website and/or through Google, Huawei phones specific to Google in the US (e.g., the Nexus 6P). Huawei actively encourages and enables users of Huawei devices on the Huawei website through one or more support articles to configure and use Huawei devices with VoWiFi on Google-Fi in the US. Huawei actively encourages and enables users to make calls and send messages over a Wi-Fi connection when cell service isn't available. Additionally, Huawei actively encourages and enables users of Huawei devices manufactured specifically for Google on the Google website through one or more support articles to configure and use Huawei devices to make Internet-based calls and send messages using Google Voice/Hangouts/Duo.

A=Intentional Encouragement - Specific Instructions On How To Use Accused Feature

B=Purposeful Causation -Pre-installed Applications That Will Cause Some Users To Infringe

	Category	Third-Party	Description/URL
1.	A,B	Google (Google Fi and Google Hangouts)	<p>Title: Nexus 6P</p> <p>Huawei actively encourages and enables users of Huawei devices to use their devices with major wireless telephone companies in the US. The Nexus 6P is an Android smartphone developed and marketed by Google and manufactured by Huawei.</p>

**CHART A**

			<a href="https://en.wikipedia.org/wiki/Nexus_6P">https://en.wikipedia.org/wiki/Nexus_6P</a>
2.	A,B	All major wireless telephone carriers  Google (Google Fi and Google Hangouts)	Nexus 6P tech specs  <a href="https://support.google.com/nexus/answer/6102470?hl=en#zippy=%2Cnexus-p">https://support.google.com/nexus/answer/6102470?hl=en#zippy=%2Cnexus-p</a> <a href="https://support.google.com/product-documentation/answer/6301411?hl=en">https://support.google.com/product-documentation/answer/6301411?hl=en</a>
3.	A,B	All major GSM carriers	Title: Huawei Mate 20 Pro (GSM Only, No CDMA) Unlocked 6GB RAM 128GB Storage Single Sim LYA-L09 - International Version/No Warranty – Black  Huawei actively encourages and enables users of Huawei devices to use their devices with major wireless telephone companies in the US. Huawei sells smartphones through Amazon.  <a href="https://www.amazon.com/dp/B07J6NMTVG?asc_campaign=commerce-pra&amp;asc_refurl=https%3A%2F%2Fwww.businessinsider.com%2Fhow-to-buy-a-huawei-smartphone-if-you-live-in-united-states-2019-1&amp;asc_source=browser&amp;tag=biauto-43024-20">https://www.amazon.com/dp/B07J6NMTVG?asc_campaign=commerce-pra&amp;asc_refurl=https%3A%2F%2Fwww.businessinsider.com%2Fhow-to-buy-a-huawei-smartphone-if-you-live-in-united-states-2019-1&amp;asc_source=browser&amp;tag=biauto-43024-20</a>

## CHART B

Huawei Technologies America, Inc. (“Huawei”) infringes the Patents-in-Suit by the “Huawei Cloud Meeting Calling System.” The Huawei Cloud Meeting Calling System includes desktop computers, laptops, tablets, smartphones, and other mobile devices as well as enterprise to small office-home office level telephony hardware, software, and cloud-based services manufactured and supported by Huawei. The Huawei Cloud Meeting Calling System actively encourages and enables users of desktop computers, laptops, tablets, smartphones, and other mobile devices to participate in mobile telephone roaming as described in U.S. Patent No. 8,630,234 (hereinafter the ‘234 Patent) and set forth in the asserted claims.

The Huawei Cloud Meeting Calling System includes Huawei Cloud Meeting, or simply Cloud Meeting, which is a cross-platform centralized messaging and communication (e.g., voice-over-IP) service owned by Huawei. The Huawei Cloud Meeting Calling System allows smartphone and desktop users to send text messages and voice messages, make voice and video calls, and share images, documents, user locations, and other content. See <https://www.huaweicloud.com/intl/en-us/product/meeting.html>.

In the Huawei Cloud Meeting Calling System, users of the desktop computers, laptops, tablets, smartphones, and mobile devices can send messages including text, images, video and audio to others using one or more Cloud Meeting client software applications developed by Huawei for supported devices to communicate with a Huawei server infrastructure owned and operated by Huawei. The Cloud Meeting client software applications running on most supported devices includes Huawei Calling, which is a voice and video calling feature incorporating techniques described in the ‘234 Patent. Additionally, in the Huawei Cloud Meeting Calling System, the Huawei server infrastructure includes one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with the Huawei server infrastructure and using Cloud Meeting server software applications developed by Huawei to implement setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from the supported devices using the Cloud Meeting client software applications. The Cloud Meeting server software applications running on servers owned and/or operated by Huawei include the Huawei Calling feature incorporating techniques described in the ‘234 Patent.

**Chart B** applies independent claim 30 of the ‘234 Patent to the Huawei Cloud Meeting Calling System.

**Chart B** demonstrates that in the Huawei Cloud Meeting Calling System, the Huawei server infrastructure owned and/or operated by Huawei produces an access code based on a location identifier and/or based on a location pre-associated with a mobile telephone and which is used by the mobile telephone to initiate a call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

## CHART B

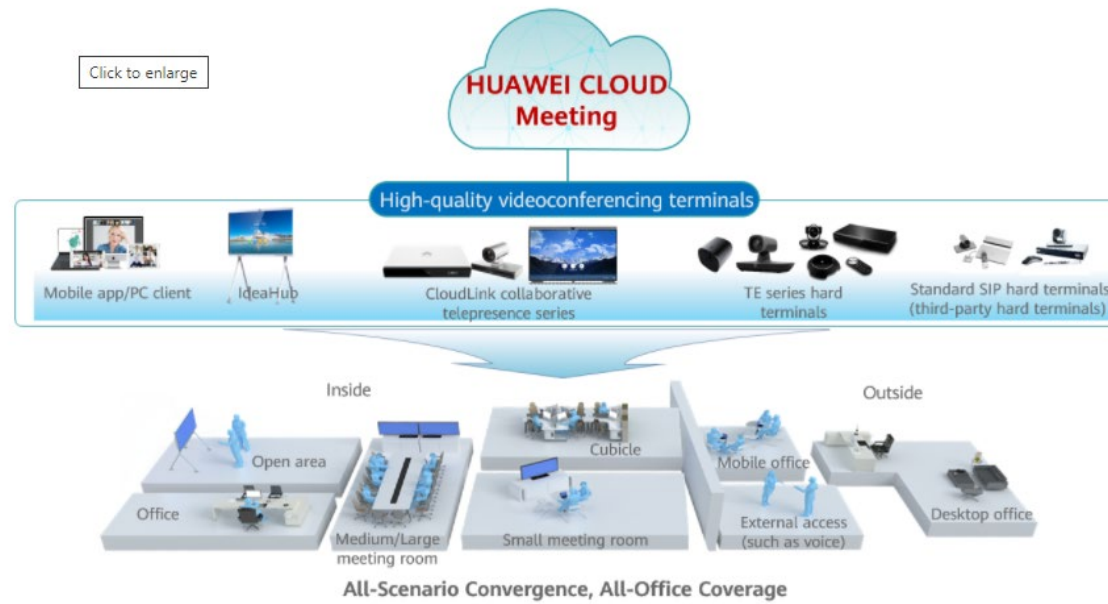
In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure produces an access code comprising one or more portions and/or a combination of information, for example, an access code comprising information identifying one or more Internet Protocol (IP) network addresses associated with one or more Huawei Calling servers in the Huawei server infrastructure and/or call session information obtained via one or more Huawei Calling servers in the Huawei server infrastructure. The call session information, for example, identifies a communications channel usable by the mobile telephone to cause a routing controller (e.g., one or more Huawei Calling servers in the Huawei server infrastructure) to establish a call to a callee using the channel. Thus, the Huawei server infrastructure enables mobile telephone roaming using the access code as described in the '234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

**Chart B** uses one scenario of infringement as an example to demonstrate how elements of the asserted claims read on the use of a domain name system (DNS) associated with the Huawei Cloud Meeting Calling System to produce one or more portions and/or combinations of information representing an access code that is based on a location identifier and/or based on a location pre-associated with the mobile telephone and that identifies one or more Internet Protocol (IP) network addresses associated with one or more Huawei Calling server in the Huawei server infrastructure and/or call session information obtained via the one or more Huawei Calling servers to enable mobile telephone roaming as described in the '234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. The scenario set forth in **Chart B** using DNS is one example made without limitation to one or more additional scenarios of infringement, which may be described in other charts using at least some of the components and/or processes associated with the Huawei Cloud Meeting Calling System already identified in **Chart B**, further demonstrating how the asserted claims read, literally and/or under the doctrine of equivalents, on the Huawei Cloud Meeting Calling System.

**CHART B****U.S. Patent No. 8,630,234**

30.	[30p] A method for enabling mobile telephone roaming, the method comprising:	<p>The Huawei Cloud Meeting Calling System includes a method for enabling mobile telephone roaming.</p> <p>In the Huawei Cloud Meeting Calling System, for example, roaming with a mobile telephone (e.g., a caller's mobile telephone) as described in the '234 Patent and defined in the method of claim 30 is performed, literally and/or under the doctrine of equivalents, by the caller's mobile telephone communicating with the Huawei server infrastructure owned and/or operated by Huawei, which includes:</p> <ul style="list-style-type: none"> <li>• One or more Huawei domain name system (DNS) servers associated with the Huawei server infrastructure that provide a naming system for one or more communication networks, one or more servers, one or more services, and/or other resources associated with the Huawei server infrastructure and using Cloud Meeting server software applications developed by Huawei to implement initialization, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications. The Huawei DNS servers associate domain names used by the Cloud Meeting client software application with various information (such as IP network addresses) that provide access to the communication networks, servers, services, and/or other resources associated with the Huawei server infrastructure.</li> <li>• One or more Huawei Calling servers associated with the Huawei server infrastructure that provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications. The Huawei Calling servers include the Cloud Meeting server software applications developed by Huawei and provide access to exchange messages (including chats, group chats, images, videos, voice messages and files) and make Cloud Meeting calls (voice and video) around the world.</li> </ul>
-----	--	--



**CHART B**

<https://support.huaweicloud.com/intl/en-us/productdesc-meeting/productdesc.html>

<https://support.huaweicloud.com/intl/en-us/productdesc-meeting/meeting-productdesc.pdf> (“HUAWEI CLOUD MEETING: Service Overview”).

In the Huawei Cloud Meeting Calling System, for example, roaming with a mobile telephone (e.g., a caller’s mobile telephone) is performed when the Huawei server infrastructure owned and operated by Huawei produces an access code based on a location identifier and/or based on a location pre-associated with the mobile telephone and which is used by the mobile telephone to initiate a call as described in the ‘234 Patent and defined in claim 30, literally and/or under the doctrine of equivalents. In the Huawei Cloud Meeting Calling System, the caller’s mobile telephone starts a Cloud Meeting call using the Cloud Meeting client software application. The caller’s mobile telephone uses the Cloud Meeting client software application to

**CHART B**

		establish communication with and through the Huawei server infrastructure to initiate the Cloud Meeting call to one or more devices and/or destinations (e.g., a callee's mobile telephone).
	[30a-1] receiving from the mobile telephone an access code request message	<p>The Huawei Cloud Meeting Calling System receives from the mobile telephone an access code request message. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to communicate (or cause to be communicated) one or more parts, portions, and/or combinations of information associated with an access code request message. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message and associated with the callee's mobile telephone and to use this information at one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to receive and process (or cause to be received), at one or more of the Huawei DNS servers, the communications and/or combination of communications associated with the callee's mobile telephone. For example, the Huawei DNS servers may obtain (or cause to be obtained) communication(s) requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the</li> </ul>

**CHART B**

Huawei server infrastructure, such as to exchange a message or setup and initiate a Cloud Meeting call. The information requesting the Huawei DNS servers to provide access may be communicated using one or more packets produced (or caused to be produced) by the caller's mobile telephone, and may comprise one or more DNS queries that query the Huawei DNS servers for one or more IP network addresses associated with one or more of the Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei Calling servers geographically situated relative to the caller's mobile telephone based on a location associated with the caller's mobile telephone. For example, the Huawei server infrastructure obtains at least one DNS query using one or more domain names associated with the Huawei server infrastructure to obtain the IP network address(es) associated with the geographically situated Huawei Calling servers at one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the Cloud Meeting client software application. Examples of obtaining the IP network addresses associated with the geographically situated Huawei Calling servers, are set forth in Appendix A. Additionally, Appendix A sets forth that one or more communications to the Huawei DNS servers using the domain names owned by Huawei, for example, based on the location associated with the communications, results in obtaining one or more IP network addresses associated with the blocks of IP network addresses owned by Huawei and geographically situated Huawei Calling servers associated with the Huawei server infrastructure.

- In the Huawei Cloud Meeting Calling System, for example, the Huawei Calling servers provide access to the Cloud Meeting server software applications developed by Huawei to exchange messages (including chats, group chats, images, videos, voice messages and files) and make Cloud Meeting calls (voice and video). For example, the Huawei Calling servers obtain the communications and/or combination of communications associated with the callee's mobile telephone as information

**CHART B**

requesting the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call. In the Huawei Cloud Meeting Calling System, for example, the information requesting the Huawei Calling servers to provide access includes and/or is communicated using one or more packets produced (or caused to be produced) by the caller's mobile telephone, the packet(s) comprising information asking one or more geographically situated Huawei Calling servers for call session information. For example, the caller's mobile telephone and the geographically situated Huawei Calling servers can communicate to establish the call session information to select and connect to a calling gateway, establish signaling, establish a media port and provide connectivity negotiation with calling gateway and/or peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a Cloud Meeting call, a Huawei group/conference call, and/or a PSTN call with the callee identified by the callee identifier. See, e.g., <https://support.huaweicloud.com/intl/en-us/productdesc-meeting/productdesc.html> ("What is HUAWEI CLOUD Meeting?").

Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to receive and process the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or to receive and process the information requesting the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, are examples of receiving from the mobile telephone an access code request message as set forth in this element.

**CHART B**

<p>[30a-2] including a callee identifier associated with the callee and</p>	<p>The Huawei Cloud Meeting Calling System receives from the mobile telephone an access code request message, where the access code request message includes a callee identifier associated with the callee. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to communicate (or cause to be communicated) an access code request message comprising one or more parts, portions, and/or combinations of information. In the Huawei Cloud Meeting Calling System, for example, composing a message or initiating a Cloud Meeting call using the Cloud Meeting client software application begins with a user entering of a callee's mobile telephone identifier associated with a callee's mobile telephone with which the user wishes to communicate. In the Huawei Cloud Meeting Calling System, for example, the user input, which may comprise a partial or complete name, email address, telephone number, or device identifier, is input directly and/or indirectly into a contact list search box, on a touch screen displaying contacts to obtain the callee's mobile telephone identifier, and/or via voice command. In the Huawei Cloud Meeting Calling System, for example, the user input associated with the caller's mobile telephone comprises one or more user names, email addresses, device identifiers, and/or telephone numbers associated with the callee's mobile telephone with which the user wishes to communicate. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to obtain the user name(s), email address(es), device identifier(s), and/or telephone number(s) associated with the callee's mobile telephone with which the user wishes to communicate from the user input associated with the caller's mobile telephone.</p>
---	---

**CHART B**

*See:* <https://support.huaweicloud.com/intl/en-us/productdesc-meeting/meeting-productdesc.pdf> (“HUAWEI CLOUD MEETING: Service Overview”). The Huawei Cloud Meeting Calling System supports users “calling other numbers of themselves” and “calling other numbers of a participant” in a meeting. *Id.* at page 4. *See also:* <https://www.huaweicloud.com/en-us/product/privatenumber.html> (“Private Number” product feature supports real phone numbers and virtualized numbers such as anonymous phone numbers for calling and texting)

In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee’s mobile telephone with one or more access servers and/or a combination of access servers associated with the Huawei server infrastructure:

- In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee’s mobile telephone interacting with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure obtains at least one DNS query using one or more domain names associated with the Huawei server infrastructure to obtain the IP network addresses associated with the geographically situated Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the DNS query includes the callee identifier associated with the callee and used by the

**CHART B**

		<p>Huawei DNS servers to obtain the IP network addresses associated with the geographically situated Huawei Calling servers.</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the packets communicated from (or caused to be communicate by) the callee's mobile telephone with the Huawei Calling servers comprise information asking one or more geographically situated Huawei Calling servers for call session information. In the Huawei Cloud Meeting Calling System, for example, information asking one or more geographically situated Huawei Calling servers for call session information includes the callee identifier associated with the callee. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone and the geographically situated Huawei Calling servers communicate to establish the call session information using the callee identifier associated with the callee.</li> </ul> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to obtain the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information requesting the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, wherein the request(s) for access identify a user name, email address, telephone number, and/or a device identifier associated with the called party, are examples of receiving from the mobile</p>
--	--	---

**CHART B**

		telephone an access code request message, where the access code request message includes including a callee identifier associated with the callee as set forth in this element.
	[30a-3] a location identifier separate and distinctive from said callee identifier,	<p>The Huawei Cloud Meeting Calling System receives from the mobile telephone an access code request message, where the access code request message includes a location identifier separate and distinctive from said callee identifier. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more access servers and/or a combination of access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei DNS servers. For example, the Huawei server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the</li> </ul>



**CHART B**

		<p>Huawei Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. The Huawei DNS servers use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone are separate and distinctive from the callee identifier as set forth in element [30a-2].</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei Calling servers. For example, the caller's mobile telephone and the geographically situated Huawei Calling servers communicate to establish the call session information, which may involve using the location identifier identifying a location of the mobile telephone. The Huawei Calling servers, for example, use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or current or pre-associated location information associated with the caller's mobile telephone as a location identifier identifying a geographical location of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or the current or pre-associated location information associated with the caller's mobile telephone are separate and distinctive from the callee identifier as set forth in element [30a-2].</li> </ul> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to obtain the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with</p>
--	--	--

**CHART B**

		<p>the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information requesting the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, for example, where the Huawei Cloud Meeting Calling System receives one or more IP network addresses identifying the mobile telephone's location and/or receives a current or pre-associated location associated with the caller's mobile telephone, are examples of receiving from the mobile telephone an access code request message, where the access code request message includes a location identifier separate and distinctive from said callee identifier as set forth in this element.</p>
	<p>[30a-4] identifying a location of the mobile telephone;</p>	<p>The Huawei Cloud Meeting Calling System receives from the mobile telephone an access code request message, where the access code request message includes a location identifier identifying a location of the mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. For example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee's mobile telephone with one or more access servers and/or a combination of access servers associated with the Huawei server infrastructure:</p>

**CHART B**

		<ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei DNS servers. For example, the Huawei server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. The Huawei DNS servers use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone identify one or more locations associated with the mobile telephone.</li> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone and the geographically situated Huawei Calling servers communicate to establish the call session information. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone and the geographically situated Huawei Calling servers communicate to establish the call session information using the location identifier identifying a location of the mobile telephone. The Huawei Calling servers, for example, use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or a current or pre-associated location information associated with the caller's mobile telephone as a location identifier identifying a geographical location of the mobile telephone.</li> </ul>
--	--	--

**CHART B**

		<p>The IP network addresses directly and/or indirectly associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, for example, as one or more absolute and relative locations:</p> <ul style="list-style-type: none"><li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to the caller's mobile telephone by a service provider, such as a wireless carrier or Internet Service Provider (ISP);</li><li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a router by a service provider, such as a wireless carrier or ISP, and through which the caller's mobile telephone directly or indirectly communicates with the Huawei server infrastructure;</li><li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a proxy server by a service provider independent of the Huawei server infrastructure, such as a wireless carrier or ISP, and which is physically located at an office/data center owned or leased by the service provider or a customer of the service provider and through which the caller's mobile telephone directly or indirectly communicates with the Huawei server infrastructure;</li><li>• a relative geographic location associated with the caller's mobile telephone, which is identified using a location physically or logically relative to the Huawei server infrastructure by an IP network address assigned by a service provider independent of the Huawei server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Huawei server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Huawei server infrastructure;</li></ul>
--	--	--

**CHART B**

		<ul style="list-style-type: none"> <li>• a proximate location associated with the caller's mobile telephone, which is identified using a location physically or logically approximate to the Huawei server infrastructure by an IP network address assigned by a service provider independent of the Huawei server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Huawei server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Huawei server infrastructure.</li> </ul> <p>The current or pre-associated location information associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, such as one or more absolute and relative locations as:</p> <ul style="list-style-type: none"> <li>• a physical location, such as a street address, latitude/longitude, and GPS coordinates.</li> <li>• a logical or virtual location, such as a communications network, Internet Service Provider, Wireless Service Provider, and Wireless Carrier.</li> </ul> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to obtain the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information requesting the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, relying on location information as discussed above, are examples of receiving from the mobile telephone an access code request message, where the access code request message includes a location identifier identifying a location of the mobile telephone as set forth in this element.</p>
	[30b-1] producing an access code identifying a communication channel	The Huawei Cloud Meeting Calling System produces an access code identifying a communication channel based on said location identifier and/or based on a location pre-associated with the mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or

**CHART B**

<p>based on said location identifier and/or based on a location pre-associated with the mobile telephone,</p>	<p>performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) an access code request message as set forth in element [30a et seq]. In response to the access code request message, for example, the Huawei server infrastructure produces an access code reply message using the parts, portions, and/or combinations of information associated with the access code request message communicated from (or caused to be communicate by) the callee's mobile telephone. The Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such including an access code using one or more access servers and/or a combination of access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers, for example, the Huawei DNS servers produce (or cause to be produced) information associated with providing access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure. For example, the Huawei DNS servers produce (or cause to be produced) information to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call. The information produced by the Huawei DNS servers to provide access includes and/or is communicated using one or</li> </ul>
---	---

**CHART B**

more packets produced (or caused to be produced) by the Huawei DNS servers. For example, the packets communicated from (or caused to be communicate by) the Huawei DNS servers include one or more DNS replies that respond to the DNS queries associated with the caller's mobile telephone by providing the mobile telephone with one or more IP network addresses associated with Huawei Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei Calling servers using one or more domain names associated with the Huawei server infrastructure. For example, the Huawei DNS servers produce at least one DNS reply identifying, to the caller's mobile telephone, one or more Huawei Calling servers that are geographically situated with respect to the caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated Huawei Calling servers), based on the geographic location associated with the caller's mobile telephone. Additionally, the Huawei DNS servers, for example, identify the geographically situated Huawei Calling servers to the caller's mobile telephone as having one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted (via identifying the IP network addresses associated with the geographically situated Huawei Calling servers).

- In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei Calling servers identified by the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei Calling servers provide access to exchange messages (including chats, group chats, images, videos, voice messages and files) and access to

**CHART B**

making Cloud Meeting calls (voice and video). For example, the Huawei Calling servers produce (or caused to be produced) call session information associated with the communications and/or the combination of communications to provide access to exchange messages and make Cloud Meeting calls. The call session information produced by the Huawei Calling servers to provide access to exchange messages and make Cloud Meeting calls may include and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei Calling servers, wherein the packet(s) include call session information associated with the Huawei Calling servers in response to a request for call session information associated with the caller's mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the call session information associated with the Huawei Calling servers includes the IP network addresses associated with the geographically situated Huawei Calling servers. The geographically situated Huawei Calling servers produce the call session information to identify, to the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the geographically situated Huawei Calling servers produce the call session information based on the geographic location associated with the caller's mobile telephone. The geographically situated Huawei Calling servers, additionally, produce the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted.

Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or



**CHART B**

		to communicate the call session information produced by the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, wherein the information produced to provide access to the Huawei Cloud Meeting Callings System is based on a location associated with the mobile telephone, are examples of producing an access code identifying a communication channel based on said location identifier and/or based on a location pre-associated with the mobile telephone as set forth in this element.
	[30b-2] said access code being different from the callee identifier and	<p>The Huawei Cloud Meeting Calling System produces an access code, said access code being different from the callee identifier. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1]. For example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) the parts, portions, and/or combinations of information associated with the access code reply message (and the access code) using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers</li> </ul>

**CHART B**

		<p>produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei Calling servers using one or more domain names associated with the Huawei server infrastructure. The IP network addresses associated with one or more geographically situated Huawei Calling servers are different from the callee identifier as set forth in element [30a-2].</p> <ul style="list-style-type: none"> <li>Furthermore, in the Huawei Cloud Meeting Calling System, for example, the geographically situated Huawei Calling servers produce the call session information to identify, to the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei Calling servers. In the Huawei Cloud Meeting Calling System, the geographically situated Huawei Calling servers produce call session information that is different from the callee identifier as set forth in element [30a-2].</li> </ul> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information by the Huawei Calling servers to provide access to the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call, are examples of producing an access code, said access code being different from the callee identifier as set forth in this element.</p>
	[30b-3] useable by the mobile telephone to initiate a call to the callee using the channel, and	The Huawei Cloud Meeting Calling System produces an access code, said access code useable by the mobile telephone to initiate a call to the callee using the channel. The Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and

**CHART B**

		<p>delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>For example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1]. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) the parts, portions, and/or combinations of information associated with the access code reply message (and the access code) using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei Calling servers using one or more domain names associated with the Huawei server infrastructure. In the Huawei Cloud Meeting Calling System, for example, the IP network addresses associated with one or more geographically situated Huawei Calling servers are useable by the mobile telephone to initiate a call to the callee using the channel.</li> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei Calling servers identified by the Huawei DNS servers. For example, the geographically situated Huawei Calling servers produce the call session information to identify, to</li> </ul>
--	--	--

**CHART B**

		<p>the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei Calling servers. For example, the geographically situated Huawei Calling servers produce call session information, which may be useable by the mobile telephone to initiate a call to the callee using the channel.</p> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information by the Huawei DNS servers, such as information identifying suitable Huawei Calling servers that is useable by the mobile telephone to receive access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call, and/or producing the information by the Huawei Calling servers, such as call session information that is useable by the mobile telephone to enable the telephone to receive access to exchange a message or setup and initiate a Cloud Meeting call, are examples of producing an access code, said access code being useable by the mobile telephone to initiate a call to the callee using the channel as set forth in this element.</p>
	[30b-4] wherein said access code expires after a period of time and	<p>The Huawei Cloud Meeting Calling System produces an access code, wherein said access code expires after a period of time. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or</p>

**CHART B**

		<p>combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei Calling servers using one or more domain names associated with the Huawei server infrastructure. In the Huawei Cloud Meeting Calling System, for example, the DNS query includes a time-to-live (TTL) value. The Huawei DNS servers, for example assign, the TTL value to the DNS reply messages resolving various information (such as IP network addresses) that facilitate communication with the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure. The TTL values assigned to at least one DNS reply message, identifying one or more IP network addresses associated with the Huawei Calling servers, indicating that the validity of the responses identifying or resolving the IP network addresses associated with the Huawei Calling servers expires after a period of time.</li> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei Calling servers identified by the Huawei DNS servers. For example, the geographically situated Huawei Calling servers produce call session information to identify, to the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei Calling servers. For example, the caller's mobile telephone and the geographically situated</li> </ul>
--	--	---

**CHART B**

		<p>Huawei Calling servers communicate to establish the call session information, which expires after a period of time. The Huawei Calling servers assign explicitly and/or implicitly session time to the call session information. The session time assigned to call session information, indicates that validity of a message or a Cloud Meeting call expires after a period of time, such as after a predetermined time or at the end of a session.</p> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information by the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, wherein the information identifying the Huawei Calling servers and/or the call session time associated with a call session expires after a period of time, are examples of producing an access code, wherein said access code expires after a period of time as set forth in this element.</p>
	[30b-5] wherein producing said access code comprises selecting said access code from a pool of access codes,	<p>The Huawei Cloud Meeting Calling System produces an access code, wherein producing said access code comprises selecting said access code from a pool of access codes. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p> <p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or</p>

**CHART B**

		<p>combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to communicate at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei Cloud Meeting Calling System, for example, one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the Cloud Meeting client software application used to obtain the IP network addresses associated with the geographically situated Huawei Calling servers are set forth in Appendix A. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to seek one or more IP network addresses associated with the geographically situated Huawei Calling servers from the blocks of IP network addressed owned by Huawei. Each IP network address associated with the blocks of IP network addressed owned by Huawei identifies a respective telephone number or Internet Protocol (IP) network address that enables a call to be made to call the callee identified by the callee identifier.</li> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei Calling servers identified by the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone and the geographically</li> </ul>
--	--	---

**CHART B**

		<p>situated Huawei Calling servers communicate to establish the call session information. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to seek one or more IP network addresses associated with the geographically situated Huawei Calling servers from the blocks of IP network addressed owned by Huawei to establish the call session information.</p> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information by the Huawei DNS servers to provide the mobile telephone with access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or to produce the information by the Huawei Calling servers to provide the mobile telephone with access to exchange a message or setup and initiate a Cloud Meeting call, wherein the information produced to provide access to the Huawei Cloud Meeting Calling System is selected from a pool, are examples of producing an access code, wherein producing said access code comprises selecting said access code from a pool of access codes as set forth in this element.</p>
	[30b-6] wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address; and	<p>The Huawei Cloud Meeting Calling System produces an access code, wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p>



**CHART B**

		<p>In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to communicate at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei Cloud Meeting Calling System, for example, one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the Cloud Meeting client software application used to obtain the IP network addresses associated with the geographically situated Huawei Calling servers are set forth in Appendix A. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to seek one or more IP network addresses associated with the geographically situated Huawei Calling servers from the blocks of IP network addressed owned by Huawei. Each IP network address associated with the blocks of IP network addressed owned by Huawei identifies a respective telephone number or Internet Protocol (IP) network address that enables a call to be made to call the callee identified by the callee identifier.</li> <li>• In one or more operations associated with producing an access code, the Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the</li> </ul>
--	--	--

**CHART B**

		<p>geographically situated Huawei Calling servers identified by the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone and the geographically situated Huawei Calling servers communicate to establish the call session information. For example, the caller's mobile telephone uses the Cloud Meeting client software application to seek one or more IP network addresses associated with the geographically situated Huawei Calling servers from the blocks of IP network addressed owned by Huawei to establish the call session information.</p> <p>Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or the information by the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, wherein the information for providing the mobile telephone with access to the Huawei Cloud Meeting Calling system represents or identifies a telephone number and/or IP address, are examples of producing an access code, wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address as set forth in this element.</p>
	[30c] transmitting an access code reply message including said access code, to the mobile telephone.	<p>The Huawei Cloud Meeting Calling System transmits an access code reply message including said access code, to the mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure includes and/or performs this element using the Cloud Meeting server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the Cloud Meeting client software applications.</p>

**CHART B**

In the Huawei Cloud Meeting Calling System, for example, the Huawei server infrastructure uses the Cloud Meeting server software application to obtain (or cause to be obtained) the access code request message associated with the caller's mobile telephone as set forth in elements [30a et seq]. The Huawei server infrastructure uses the Cloud Meeting server software application to produce (or cause to be produced) the access code as set forth in elements [30b et seq]. For example, the Huawei server infrastructure uses the Cloud Meeting server software application to communicate (or cause to be communicated) to the caller's mobile telephone one or more parts, portions, and/or combinations of information associated with an access code reply message, using one or more means of direct and/or indirect communications and/or a combination of communications to the caller's mobile telephone to implement one or more access servers of the Huawei server infrastructure:

- In one or more communications and/or a combination of communications associated with transmitting an access code reply message, the Huawei server infrastructure uses the Cloud Meeting server software application to communicate (or cause to be communicated) the communications and/or the combination of communications associated with one or more of the Huawei DNS servers. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure, and/or the Huawei server infrastructure provides access to exchange a message or setup and initiate a Cloud Meeting call. In the Huawei Cloud Meeting Calling System, for example, the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure includes and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei DNS servers, including, for example, one or more DNS replies that respond to the DNS queries associated with the caller's mobile telephone by providing the mobile telephone with one or more IP network addresses associated with Huawei Calling servers

**CHART B**

geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers communicate at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei Calling servers using one or more domain names associated with the Huawei server infrastructure. For example, the Huawei DNS servers communicate at least one DNS reply identifying, to the caller's mobile telephone, one or more Huawei Calling servers that are geographically situated with respect to the caller's mobile telephone (e.g., via identifying the IP network addresses associated with the geographically situated Huawei Calling servers), based on the geographic location associated with the caller's mobile telephone. Additionally, the Huawei DNS servers, for example, identify the geographically situated Huawei Calling servers to the caller's mobile telephone as having one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted (e.g., via identifying the IP network addresses associated with the geographically situated Huawei Calling servers).

- In one or more communications and/or a combination of communications associated with transmitting an access code reply message, the Huawei server infrastructure uses the Cloud Meeting server software application to communicate (or cause to be communicated) communication(s) associated with one or more of the Huawei Calling servers. For example, the Huawei Calling servers provides access to exchange messages (including chats, group chats, images, videos, voice messages and files) and make Cloud Meeting calls (voice and video), and the Huawei Calling servers communicate call session information associated with the communications and/or the combination of communications to provide access to exchange messages and make Cloud Meeting calls. For example, the call session information produced by the Huawei Calling servers to provide access to exchange messages and make Cloud Meeting calls includes and/or is communicated using one or more packets produced (or

**CHART B**

caused to be produced) by the Huawei Calling servers. The packets may include call session information associated with the Huawei Calling servers in response to a request for call session information associated with the caller's mobile telephone. The call session information associated with the Huawei Calling servers includes the IP network addresses associated with the geographically situated Huawei Calling servers. The geographically situated Huawei Calling servers may communicate the call session information to identify, to the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei Calling servers. In the Huawei Cloud Meeting Calling System, for example, the geographically situated Huawei Calling servers communicate the call session information based on the geographic location associated with the caller's mobile telephone, and, additionally, communicate the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted.

Individually or in combination with other information, the Huawei server infrastructure using the Cloud Meeting server software application to communicate the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei server infrastructure to exchange a message or setup and initiate a Cloud Meeting call and/or to communicate the call session information produced by the Huawei Calling servers to provide access to exchange a message or setup and initiate a Cloud Meeting call, are examples of transmitting an access code reply message including said access code, to the mobile telephone as set forth in this element.

The Huawei Cloud Meeting Calling System enables mobile telephone roaming as described in the '234 Patent and defined in claim 30, literally and/or under the doctrine of equivalents. The Huawei Cloud Meeting

**CHART B**

	<p>Calling System uses access code request/response messages to produce an access code useable by the mobile telephone to initiate a call to a callee. In the Huawei Cloud Meeting Calling System, the access code is based on a location identifier and/or based on a location pre-associated with the mobile telephone. The access code, alone or in combination with other information for example, identifies an IP address associated with one or more Huawei Calling servers having a communication channel through which the caller's mobile telephone may initiate a Cloud Meeting call. In the Huawei Cloud Meeting Calling System, an access code comprises information or a combination of information, such as one or IP addresses associated with one or more Huawei Calling servers (having communication channels for Cloud Meeting calls between mobile telephones) and/or call session information provided by the Huawei Calling servers that enables a call to be made to a callee. The communications channels also can connect the caller's mobile telephone with other devices using telephone lines in a Public Switched Telephone Network (PSTN). The Huawei Calling servers can direct calls that are received on the communications channels to a gateway leading to the PSTN. The Huawei Calling servers use the communications channels to cooperate with an IP network and the gateway to the PSTN to cause a call involving the caller's mobile telephone to be routed through the IP network and continue to the PSTN. The communication channels provided by the Huawei Calling servers may provide the benefit of callers placing calls to the PSTN at either no additional charge or at a lower additional charge than would be otherwise required. Furthermore, where calls may be placed by callers to the IP network, the calls may be placed in a manner that minimizes transmission times over the IP network.</p>
--	---

## CHART B

### APPENDIX A

In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Huawei client software application to communicate at least one DNS query to seek one or more IP network addresses associated with one or more geographically situated Huawei Calling servers identified using the following exemplary domain name(s):

- meeting.huaweicloud.com

In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers communicate, to the caller's mobile telephone, one or more DNS replies in response to the DNS queries. In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers communicate one or more IP network addresses in at least the following exemplary block(s) of IP network addresses assigned to the Huawei server infrastructure and owned or operated by Huawei:

- 94.74.64.0/25

In the Huawei Cloud Meeting Calling System, for example, the Huawei DNS servers communicate, to the caller's mobile telephone, the IP network addresses associated with the geographically located Huawei Calling servers based on a location identifier and/or based on a location pre-associated with a mobile telephone.

In a set of tests associated with the scenario set forth in **Chart B** using DNS, an initiating device associated with an IP network address allocated by an Internet service provider within the following geographic regions communicated one or more DNS requests to the Huawei DNS servers using the above domain names. **Appendix A** sets forth that DNS replies in response to DNS requests made to the Huawei DNS servers by the initiating device (e.g., by contacting the Google public DNS server at an IP address of 8.8.8.8) result in the initiating device obtaining, from the Huawei DNS servers, the IP network addresses associated with the geographically located Huawei Calling servers based on a location associated with the IP network address allocated to the initiating device. In the Huawei Cloud Meeting Calling System, for example, the initiating device also obtains the same IP network addresses associated with the geographically located Huawei Calling servers based on a location associated with the IP network address allocated to the initiating device by the initiating device directly contacting the Huawei DNS servers.

**CHART B**

**Appendix A** sets forth that, in the Huawei Cloud Meeting Calling System, the IP network addresses associated with the Huawei Calling servers across geographic locations in the following table are being selected based on a location associated with the IP network address allocated to the initiating device. The following table provides an example of the IP network addresses returned by the Huawei DNS servers (together with a count, if available, indicating the number of times each unique IP address was resolved by the Huawei DNS servers).

California	Florida
meeting.huaweicloud.com	meeting.huaweicloud.com
94.74.69.128	94.74.69.229



## CHART C

Huawei Technologies America, Inc. (“Huawei”) infringes the Patents-in-Suit by the “Huawei CloudLink Calling System.” The Huawei CloudLink Calling System includes desktop computers, laptops, tablets, smartphones, and other mobile devices as well as enterprise to small office-home office level telephony hardware, software, and cloud-based services manufactured and supported by Huawei and used by Huawei enterprise customers. The Huawei CloudLink Calling System actively encourages and enables users of desktop computers, laptops, tablets, smartphones, and other mobile devices and the Huawei enterprise customers to participate in mobile telephone roaming as described in U.S. Patent No. 8,630,234 (hereinafter the ‘234 Patent) and set forth in the asserted claims.

The Huawei CloudLink Calling System includes Huawei CloudLink Video Conferencing Platform, or simply CloudLink, which is a cross-platform centralized messaging and communication (e.g., voice-over-IP) service owned by Huawei. The Huawei CloudLink Calling System allows smartphone and desktop users to send text messages and voice messages, make voice and video calls, and share images, documents, user locations, and other content. See <https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform>.

In the Huawei CloudLink Calling System, users of the desktop computers, laptops, tablets, smartphones, and mobile devices can send messages including text, images, video and audio to others using CloudLink client software applications developed by Huawei for supported devices to communicate with a Huawei CloudLink-enabled server infrastructure owned and operated by a Huawei enterprise customer. The CloudLink client software applications running on most supported devices includes Huawei Calling, which is a voice and video calling feature incorporating techniques described in the ‘234 Patent. Additionally, in the Huawei CloudLink Calling System, the Huawei CloudLink-enabled server infrastructure includes one or more communication networks, one or more servers, one or more services, and/or one or more other resources associated with the Huawei CloudLink-enabled server infrastructure and using CloudLink server software applications developed by Huawei to implement setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from the supported devices using the CloudLink client software applications. The CloudLink server software applications running on servers owned and/or operated by the Huawei enterprise customer include the Huawei Calling feature incorporating techniques described in the ‘234 Patent.

**Chart C** applies independent claim 30 of the ‘234 Patent to the Huawei CloudLink Calling System.

**Chart C** demonstrates that in the Huawei CloudLink Calling System, the Huawei CloudLink-enabled server infrastructure owned and operated by the Huawei enterprise customer produces an access code based on a location identifier and/or based on a location pre-associated with a

## CHART C

mobile telephone and which is used by the mobile telephone to initiate a call as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure produces an access code comprising one or more portions and/or a combination of information. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure produces an access code comprising information identifying one or more Internet Protocol (IP) network addresses associated with one or more Huawei Calling servers in the Huawei CloudLink-enabled server infrastructure and/or call session information obtained via one or more Huawei Calling servers in the Huawei CloudLink-enabled server infrastructure. The call session information, for example, identifies a communications channel usable by the mobile telephone to cause a routing controller (e.g., one or more Huawei Calling servers in the Huawei CloudLink-enabled server infrastructure) to establish a call to a callee using the channel. Thus, the Huawei server infrastructure enables mobile telephone roaming using the access code as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents.

**Chart C** uses one scenario of infringement as an example to demonstrate how elements of the asserted claims read on the use of a domain name system (DNS) associated with the Huawei CloudLink-enabled server infrastructure to produce one or more portions and/or combinations of information representing an access code that is based on a location identifier and/or based on a location pre-associated with the mobile telephone and that identifies one or more Internet Protocol (IP) network addresses associated with one or more Huawei Calling server in the Huawei CloudLink-enabled server infrastructure and/or call session information obtained via the one or more Huawei Calling servers to enable mobile telephone roaming as described in the ‘234 Patent and defined in the asserted claims, literally and/or under the doctrine of equivalents. The scenario set forth in **Chart C** using DNS is one example made without limitation to one or more additional scenarios of infringement, which may be described in other charts using at least some of the components and/or processes associated with the Huawei CloudLink Calling System already identified in **Chart C**, further demonstrating how the asserted claims read, literally and/or under the doctrine of equivalents, on the Huawei CloudLink Calling System.

**CHART C****U.S. Patent No. 8,630,234**

30.	[30p] A method for enabling mobile telephone roaming, the method comprising:	<p>The Huawei CloudLink Calling System includes a method for enabling mobile telephone roaming.</p> <p>In the Huawei CloudLink Calling System, for example, roaming with a mobile telephone (e.g., a caller's mobile telephone) as described in the '234 Patent and defined in the method of claim 30 is performed, literally and/or under the doctrine of equivalents, by the caller's mobile telephone communicating with the Huawei CloudLink-enabled server infrastructure owned and/or operated by the Huawei enterprise customer, which includes:</p> <ul style="list-style-type: none"> <li>• One or more Huawei domain name system (DNS) servers associated with the Huawei CloudLink-enabled server infrastructure that provide a naming system for one or more communication networks, one or more servers, one or more services, and/or other resources associated with the Huawei CloudLink-enabled server infrastructure and using CloudLink server software applications developed by Huawei to implement initialization, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications. The Huawei DNS servers associate domain names used by the CloudLink client software application with various information (such as IP network addresses) that provide access to the communication networks, servers, services, and/or other resources associated with the Huawei CloudLink-enabled server infrastructure.</li> <li>• One or more Huawei CloudLink-enabled Calling servers associated with the Huawei CloudLink-enabled server infrastructure that provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications. The Huawei CloudLink-enabled Calling servers include the CloudLink server software applications developed by Huawei and provide access to</li> </ul>
-----	--	--

## CHART C

exchange messages (including chats, group chats, images, videos, voice messages and files) and make CloudLink calls (voice and video) around the world.

### Overall Architecture



### Choose a Product That Meets Your Needs



#### VP9800A-T Series 4K Media Engine

Huawei VP9800A-T series MCU is a next-generation media engine with H.265 4K full encoding and decoding capabilities and multi-stream forwarding capabilities. Using the H.265 SCC, a brand new HD codec that supports a resolution of up to 4K for data conferences, it integrates video, audio, presentation, and data to enable seamless communication and collaboration. It supports resource pool management, backup between MCUs in a resource pool, and backup between resource pools, delivering a superb conference experience.



#### VP9800A Series Fully Convergent Media Engine

Next generation highly scalable media engines with large capacity and flexible ports, supporting resolution of up to 4K for data conferences that integrate video, audio, presentation, and data for seamless communication and collaboration.



#### VP9800 Series Fully Convergent MCUs

Huawei VP9800A MCUs are next-generation media engines with large capacity, flexible ports, and high scalability. The MCUs provide cutting-edge 1080p 60 fps full encoding and decoding capabilities and advanced 1080p 30 fps forwarding capabilities. The H.265 SCC, a brand new HD codec that supports a resolution of up to 4K for data conferences, integrates video, audio, presentation, and data to provide seamless communication and collaboration.



#### CloudMCU — Cloud-Based MCU

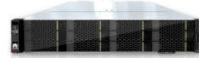
Integrates audio, video, and data for seamless communication and consistency of experience from meeting rooms to personal devices, such as cellphones and PCs. It centrally manages and controls conferencing resources to meet cloud requirements of enterprises and service providers.

## CHART C



### SMC Video Conferencing Service Management System

Huawei Service Management Center (SMC) is a next-generation video conferencing management system. It supports easy-to-use conference management and control, visualized O&M, and unified scheduling and management of video conference devices and media resources on the entire network. Its service-oriented architecture features high performance, large capacity, and elastic scaling, meeting the needs of video conferences at different scales.



### SwitchCenter Call Control and Firewall Traversal Server

An H.323- and SIP-compliant server that supports call control and traversal between public and private networks. It enables seamless video collaboration between private and public networks, headquarters and branches, even across enterprises.



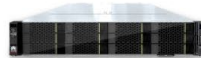
### HUAWEI RSE8800A 4K Recording & Streaming Engine

A next generation 4K recording and streaming engine that supports H.265 4K30 dual-stream UHD recording, livestreaming, VOD, and mobile viewing. It offers high performance, stability, and reliability, delivering easy-to-use videoconferencing for diverse industries.



### CloudRSE Video Conferencing Recording and Streaming Server

CloudRSE is Huawei's next-gen platform for recording and streaming video conferences. Supporting 1080p60 HD recording, live streaming, and video on demand (VOD), as well as mobile viewing. It provides easy-to-use, reliable, and full HD recording services for video conferences. It is widely used in scenarios such as video conferences, enterprise training, and distance education.



### Huawei CloudLink Edge 1000 Integrated Video Conferencing Solution

Huawei CloudLink Edge 1000 is a highly integrated video conferencing solution for small and medium enterprises. It supports accesses from multiple types of terminals, achieving flexible communications inside and outside enterprises.



### SMC2.0 Videoconferencing Service Management System

Huawei's video conferencing service management system, which provides centralized management and control over video communications services for enterprises.



### VP9600 Series Universal Transcoding MCUs

A universal transcoding MCU with the highest capacity among all Huawei MCUs, flexible port allocation, and simple capacity expansion. Suitable for enterprises of any size and video conferencing service carriers, it provides an optimal video conferencing experience.

<https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform>

**CHART C**

		<p>In the Huawei CloudLink Calling System, for example, roaming with a mobile telephone (e.g., a caller's mobile telephone) is performed when the Huawei CloudLink-enabled server infrastructure owned and operated by the Huawei enterprise customer produces an access code based on a location identifier and/or based on a location pre-associated with the mobile telephone and which is used by the mobile telephone to initiate a call as described in the '234 Patent and defined in claim 30, literally and/or under the doctrine of equivalents. In the Huawei CloudLink Calling System, the caller's mobile telephone starts a CloudLink call using the CloudLink client software application. The caller's mobile telephone uses the CloudLink client software application to establish communication with and through the Huawei CloudLink-enabled server infrastructure to initiate the CloudLink call to one or more devices and/or destinations (e.g., a callee's mobile telephone).</p>
	[30a-1] receiving from the mobile telephone an access code request message	<p>The Huawei CloudLink Calling System receives from the mobile telephone an access code request message. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to communicate (or cause to be communicated) one or more parts, portions, and/or combinations of information associated with an access code request message. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message and associated with the callee's mobile</p>

**CHART C**

		<p>telephone and to use this information at one or more access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to receive and process (or cause to be received), at one or more of the Huawei DNS servers, the communications and/or combination of communications associated with the callee's mobile telephone. For example, the Huawei DNS servers may obtain (or cause to be obtained) communication(s) requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure, such as to exchange a message or setup and initiate a CloudLink call. The information requesting the Huawei DNS servers to provide access may be communicated using one or more packets produced (or caused to be produced) by the caller's mobile telephone, and may comprise one or more DNS queries that query the Huawei DNS servers for one or more IP network addresses associated with one or more of the Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on a location associated with the caller's mobile telephone. For example, the Huawei CloudLink-enabled server infrastructure obtains at least one DNS query using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure to obtain the IP network address(es) associated with the geographically situated Huawei CloudLink-enabled Calling servers at one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the CloudLink client software application. Examples of obtaining the IP network addresses associated with the</li></ul>
--	--	--

**CHART C**

		<p>geographically situated Huawei CloudLink-enabled Calling servers, are set forth in Appendix A. Additionally, Appendix A sets forth that one or more communications to the Huawei DNS servers using the domain names owned by Huawei, for example, based on the location associated with the communications, results in obtaining one or more IP network addresses associated with the blocks of IP network addresses owned by Huawei and geographically situated Huawei CloudLink-enabled Calling servers associated with the Huawei CloudLink-enabled server infrastructure.</p> <ul style="list-style-type: none"> <li>• In the Huawei Cloud Meeting Calling System, for example, the Huawei Calling servers provide access to the Cloud Meeting server software applications developed by Huawei to exchange messages (including chats, group chats, images, videos, voice messages and files) and make CloudLink calls (voice and video). For example, the Huawei CloudLink-enabled Calling servers obtain the communications and/or combination of communications associated with the callee's mobile telephone as information requesting the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call. In the Huawei CloudLink Calling System, for example, the information requesting the Huawei CloudLink-enabled Calling servers to provide access includes and/or is communicated using one or more packets produced (or caused to be produced) by the caller's mobile telephone, the packet(s) comprising information asking one or more geographically situated Huawei CloudLink-enabled Calling servers for call session information. For example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers can communicate to establish the call session information to select and connect to a calling gateway, establish signaling, establish a media port and provide connectivity negotiation with calling gateway and/or peer-to-peer using protocols such as ICE/STUN/TURN, and initiate via the calling gateway a CloudLink call, a Huawei group/conference call, and/or a PSTN call with the callee identified by the callee identifier. See, e.g., <a href="https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform">https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform</a>.</li> </ul>
--	--	---



**CHART C**

		<p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to receive and process the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or to receive and process the information requesting the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, are examples of receiving from the mobile telephone an access code request message as set forth in this element.</p>
	[30a-2] including a callee identifier associated with the callee and	<p>The Huawei CloudLink Calling System receives from the mobile telephone an access code request message, where the access code request message includes a callee identifier associated with the callee. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to communicate (or cause to be communicated) an access code request message comprising one or more parts, portions, and/or combinations of information. In the Huawei CloudLink Calling System, for example, composing a message or initiating a CloudLink call using the CloudLink client software application begins with a user entering of a callee's mobile telephone identifier associated with a callee's mobile telephone with which the user wishes to communicate. In the Huawei CloudLink Calling System, for example, the user input, which may comprise a partial or complete name, email address,</p>

**CHART C**

telephone number, or device identifier, is input directly and/or indirectly into a contact list search box, on a touch screen displaying contacts to obtain the callee's mobile telephone identifier, and/or via voice command. In the Huawei CloudLink Calling System, for example, the user input associated with the caller's mobile telephone comprises one or more user names, email addresses, device identifiers, and/or telephone numbers associated with the callee's mobile telephone with which the user wishes to communicate. In the Huawei Cloud Meeting Calling System, for example, the caller's mobile telephone uses the Cloud Meeting client software application to obtain the user name(s), email address(es), device identifier(s), and/or telephone number(s) associated with the callee's mobile telephone with which the user wishes to communicate from the user input associated with the caller's mobile telephone.

In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee's mobile telephone with one or more access servers and/or a combination of access servers associated with the Huawei CloudLink-enabled server infrastructure:

- In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System,

**CHART C**

		<p>for example, the Huawei CloudLink-enabled server infrastructure obtains at least one DNS query using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure to obtain the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the DNS query includes the callee identifier associated with the callee and used by the Huawei DNS servers to obtain the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers.</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the packets communicated from (or caused to be communicate by) the callee's mobile telephone with the Huawei CloudLink-enabled Calling servers comprise information asking one or more geographically situated Huawei CloudLink-enabled Calling servers for call session information. In the Huawei CloudLink Calling System, for example, information asking one or more geographically situated Huawei CloudLink-enabled Calling servers for call session information includes the callee identifier associated with the callee. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information using the callee identifier associated with the callee.</li> </ul> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to obtain the information requesting the Huawei DNS</p>
--	--	--

**CHART C**

		<p>servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information requesting the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, wherein the request(s) for access identify a user name, email address, telephone number, and/or a device identifier associated with the called party, are examples of receiving from the mobile telephone an access code request message, where the access code request message includes including a callee identifier associated with the callee as set forth in this element.</p>
	<p>[30a-3] a location identifier separate and distinctive from said callee identifier,</p>	<p>The Huawei CloudLink Calling System receives from the mobile telephone an access code request message, where the access code request message includes a location identifier separate and distinctive from said callee identifier. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or</p>

**CHART C**

		<p>more access servers and/or a combination of access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei DNS servers. For example, the Huawei CloudLink-enabled server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. The Huawei DNS servers use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone are separate and distinctive from the callee identifier as set forth in element [30a-2].</li> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei CloudLink-enabled Calling servers. For example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information, which may involve using the location identifier identifying a location of the mobile telephone. The Huawei CloudLink-enabled Calling servers, for example, use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or current or pre-associated location information associated with the caller's</li> </ul>
--	--	---

**CHART C**

		<p>mobile telephone as a location identifier identifying a geographical location of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or the current or pre-associated location information associated with the caller's mobile telephone are separate and distinctive from the callee identifier as set forth in element [30a-2].</p> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to obtain the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information requesting the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, for example, where the Huawei Cloud Meeting Calling System receives one or more IP network addresses identifying the mobile telephone's location and/or receives a current or pre-associated location associated with the caller's mobile telephone, are examples of receiving from the mobile telephone an access code request message, where the access code request message includes a location identifier separate and distinctive from said callee identifier as set forth in this element.</p>
	[30a-4] identifying a location of the mobile telephone;	<p>The Huawei CloudLink Calling System receives from the mobile telephone an access code request message, where the access code request message includes a location identifier identifying a location of the mobile telephone. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p>

**CHART C**

		<p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to receive (or cause to be received) the parts, portions, and/or combinations of information associated with the access code request message as set forth in element [30a-1]. For example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the parts, portions, and/or combinations of information associated with the access code request message using the communications and/or combination of communications associated with the callee's mobile telephone with one or more access servers and/or a combination of access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with receiving from the mobile telephone an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone interacting with one or more of the Huawei DNS servers. For example, the Huawei CloudLink-enabled server infrastructure obtains at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. The Huawei DNS servers use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone as a location identifier of the mobile telephone. The IP network addresses directly and/or indirectly associated with the caller's mobile telephone identify one or more locations associated with the mobile telephone.</li> <li>• In one or more communications and/or a combination of communications associated with receiving from the wireless device an access code request message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the communications and/or combination of communications associated with the callee's mobile telephone</li> </ul>
--	--	--

**CHART C**

		<p>interacting with one or more of the Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information using the location identifier identifying a location of the mobile telephone. The Huawei CloudLink-enabled Calling servers, for example, use one or more IP network addresses directly and/or indirectly associated with the caller's mobile telephone and/or a current or pre-associated location information associated with the caller's mobile telephone as a location identifier identifying a geographical location of the mobile telephone.</p> <p>The IP network addresses directly and/or indirectly associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, for example, as one or more absolute and relative locations:</p> <ul style="list-style-type: none"> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to the caller's mobile telephone by a service provider, such as a wireless carrier or Internet Service Provider (ISP);</li> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a router by a service provider, such as a wireless carrier or ISP, and through which the caller's mobile telephone directly or indirectly communicates with the Huawei CloudLink-enabled server infrastructure;</li> <li>• an actual geographic location associated with the caller's mobile telephone, which is identified by an IP network address assigned to a proxy server by a service provider independent of the Huawei CloudLink-enabled server infrastructure, such as a wireless carrier or ISP, and which is physically</li> </ul>
--	--	--



**CHART C**

		<p>located at an office/data center owned or leased by the service provider or a customer of the service provider and through which the caller's mobile telephone directly or indirectly communicates with the Huawei CloudLink-enabled server infrastructure;</p> <ul style="list-style-type: none"> <li>• a relative geographic location associated with the caller's mobile telephone, which is identified using a location physically or logically relative to the Huawei CloudLink-enabled server infrastructure by an IP network address assigned by a service provider independent of the Huawei CloudLink-enabled server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Huawei CloudLink-enabled server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Huawei CloudLink-enabled server infrastructure;</li> <li>• a proximate location associated with the caller's mobile telephone, which is identified using a location physically or logically approximate to the Huawei CloudLink-enabled server infrastructure by an IP network address assigned by a service provider independent of the Huawei CloudLink-enabled server infrastructure to the caller's mobile telephone, a router through which the caller's mobile telephone communicates with the Huawei CloudLink-enabled server infrastructure, or a proxy server through which the caller's mobile telephone communicates with the Huawei CloudLink-enabled server infrastructure.</li> </ul> <p>The current or pre-associated location information associated with the caller's mobile telephone identify a location associated with the caller's mobile telephone, such as one or more absolute and relative locations as:</p> <ul style="list-style-type: none"> <li>• a physical location, such as a street address, latitude/longitude, and GPS coordinates.</li> <li>• a logical or virtual location, such as a communications network, Internet Service Provider, Wireless Service Provider, and Wireless Carrier.</li> </ul>
--	--	---

**CHART C**

		<p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to obtain the information requesting the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information requesting the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, relying on location information as discussed above, are examples of receiving from the mobile telephone an access code request message, where the access code request message includes a location identifier identifying a location of the mobile telephone as set forth in this element.</p>
	<p>[30b-1] producing an access code identifying a communication channel based on said location identifier and/or based on a location pre-associated with the mobile telephone,</p>	<p>The Huawei CloudLink Calling System produces an access code identifying a communication channel based on said location identifier and/or based on a location pre-associated with the mobile telephone. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) an access code request message as set forth in element [30a et seq]. In response to the access code request message, for example, in the Huawei CloudLink Calling System, the Huawei CloudLink-enabled server infrastructure produces an access code reply message using the parts, portions, and/or combinations of information associated with the access code request message communicated from (or caused to be communicate by) the callee's mobile telephone. The Huawei CloudLink-enabled server infrastructure uses the CloudLink server software</p>

**CHART C**

		<p>application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such including an access code using one or more access servers and/or a combination of access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers, for example, the Huawei DNS servers produce (or cause to be produced) information associated with providing access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure. For example, the Huawei DNS servers produce (or cause to be produced) information to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call. The information produced by the Huawei DNS servers to provide access includes and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei DNS servers. For example, the packets communicated from (or caused to be communicate by) the Huawei DNS servers include one or more DNS replies that respond to the DNS queries associated with the caller's mobile telephone by providing the mobile telephone with one or more IP network addresses associated with Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure. For example, the Huawei DNS</li> </ul>
--	--	--

**CHART C**

		<p>servers produce at least one DNS reply identifying, to the caller's mobile telephone, one or more Huawei CloudLink-enabled Calling servers that are geographically situated with respect to the caller's mobile telephone (via identifying the IP network addresses associated with the geographically situated Huawei Calling servers), based on the geographic location associated with the caller's mobile telephone. Additionally, the Huawei DNS servers, for example, identify the geographically situated Huawei CloudLink-enabled Calling servers to the caller's mobile telephone as having one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted (via identifying the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers).</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei CloudLink-enabled Calling servers identified by the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled Calling servers provide access to exchange messages (including chats, group chats, images, videos, voice messages and files) and access to making Cloud Meeting calls (voice and video). For example, the Huawei CloudLink-enabled Calling servers produce (or caused to be produced) call session information associated with the communications and/or the combination of communications to provide access to exchange messages and make CloudLink calls. The call session information produced by the Huawei CloudLink-enabled Calling servers to provide access to exchange messages and make CloudLink calls may include and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei CloudLink-enabled Calling servers, wherein the packet(s) include call session information associated with the Huawei CloudLink-enabled Calling servers in response to a request for call session information associated with the caller's mobile telephone. In the</li> </ul>
--	--	---

**CHART C**

Huawei CloudLink Calling System, for example, the call session information associated with the Huawei CloudLink-enabled Calling servers includes the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. The geographically situated Huawei CloudLink-enabled Calling servers produce the call session information to identify, to the caller's mobile telephone, the Huawei CloudLink-enabled Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the geographically situated Huawei CloudLink-enabled Calling servers produce the call session information based on the geographic location associated with the caller's mobile telephone. The geographically situated Huawei CloudLink-enabled Calling servers, additionally, produce the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted.

Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or to communicate the call session information produced by the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, wherein the information produced to provide access to the Huawei Cloud Meeting Callings System is based on a location associated with the mobile telephone, are examples of producing an access code identifying a communication channel based on said location identifier and/or based on a location pre-associated with the mobile telephone as set forth in this element.

**CHART C**

	<p>[30b-2] said access code being different from the callee identifier and</p>	<p>The Huawei CloudLink Calling System produces an access code, said access code being different from the callee identifier. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1]. For example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) the parts, portions, and/or combinations of information associated with the access code reply message (and the access code) using one or more access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure. The IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers are different from the callee identifier as set forth in element [30a-2].</li> </ul>

**CHART C**

		<ul style="list-style-type: none"> <li>Furthermore, in the Huawei CloudLink Calling System, for example, the geographically situated Huawei CloudLink-enabled Calling servers produce the call session information to identify, to the caller's mobile telephone, the Huawei CloudLink-enabled Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the geographically situated Huawei CloudLink-enabled Calling servers produce call session information that is different from the callee identifier as set forth in element [30a-2].</li> </ul> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information by the Huawei CloudLink-enabled Calling servers to provide access to the Huawei server infrastructure to exchange a message or setup and initiate a CloudLink call, are examples of producing an access code, said access code being different from the callee identifier as set forth in this element.</p>
	[30b-3] useable by the mobile telephone to initiate a call to the callee using the channel, and	The Huawei CloudLink Calling System produces an access code, said access code useable by the mobile telephone to initiate a call to the callee using the channel. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.

**CHART C**

		<p>For example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1]. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) the parts, portions, and/or combinations of information associated with the access code reply message (and the access code) using one or more access servers associated with the Huawei CloudLink-enabled server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure. In the Huawei CloudLink Calling System, for example, the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers are useable by the mobile telephone to initiate a call to the callee using the channel.</li> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei CloudLink-enabled Calling servers identified by the Huawei DNS servers. For example, the geographically situated Huawei CloudLink-enabled Calling servers produce the call session information to identify, to the caller's mobile telephone, the Huawei CloudLink-enabled Calling servers as geographically situated with respect to the caller's mobile</li> </ul>
--	--	---



**CHART C**

		<p>telephone using the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. For example, the geographically situated Huawei CloudLink-enabled Calling servers produce the call session information, which may be useable by the mobile telephone to initiate a call to the callee using the channel.</p> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information by the Huawei DNS servers to receive access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call, and/or producing the information by the Huawei CloudLink-enabled Calling servers, such as call session information that is useable by the mobile telephone to enable the telephone to receive access to exchange a message or setup and initiate a CloudLink call, are examples of producing an access code, said access code being useable by the mobile telephone to initiate a call to the callee using the channel as set forth in this element.</p>
	[30b-4] wherein said access code expires after a period of time and	<p>The Huawei CloudLink Calling System produces an access code, wherein said access code expires after a period of time. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an</p>

**CHART C**

		<p>access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"><li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers produce at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure. In the Huawei CloudLink Calling System, for example, the DNS query includes a time-to-live (TTL) value. The Huawei DNS servers, for example assign, the TTL value to the DNS reply messages resolving various information (such as IP network addresses) that facilitate communication with the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure. The TTL values assigned to at least one DNS reply message, identifying one or more IP network addresses associated with the Huawei CloudLink-enabled Calling servers, indicating that the validity of the responses identifying or resolving the IP network addresses associated with the Huawei Calling servers expires after a period of time.</li><li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei CloudLink-enabled Calling servers identified by the Huawei DNS servers. For example, the geographically situated Huawei CloudLink-enabled Calling servers produce call session information to identify, to the caller's mobile telephone, the Huawei CloudLink-enabled Calling servers as geographically situated with respect to the caller's mobile</li></ul>
--	--	--

**CHART C**

		<p>telephone using the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. For example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information, which expires after a period of time. The Huawei CloudLink-enabled Calling servers assign explicitly and/or implicitly session time to the call session information. The session time assigned to call session information, indicates that validity of a message or a CloudLink call expires after a period of time, such as after a predetermined time or at the end of a session.</p> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information by the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, wherein the information identifying the Huawei Calling servers and/or the call session time associated with a call session expires after a period of time, are examples of producing an access code, wherein said access code expires after a period of time as set forth in this element.</p>
	[30b-5] wherein producing said access code comprises selecting said access code from a pool of access codes,	<p>The Huawei CloudLink Calling System produces an access code, wherein producing said access code comprises selecting said access code from a pool of access codes. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p>

**CHART C**

In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:

- In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to communicate at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei CloudLink Calling System, for example, one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the CloudLink client software application used to obtain the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers are set forth in Appendix A. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to seek one or more IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers from the blocks of IP network addressed owned by Huawei. Each IP network address associated with the blocks of IP network addressed owned by Huawei identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier.

**CHART C**

		<ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei CloudLink-enabled Calling servers identified by the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to seek one or more IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers from the blocks of IP network addressed owned by Huawei to establish the call session information.</li> </ul> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information by the Huawei DNS servers to provide the mobile telephone with access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or to produce the information by the Huawei CloudLink-enabled Calling servers to provide the mobile telephone with access to exchange a message or setup and initiate a CloudLink call, wherein the information produced to provide access to the Huawei Cloud Meeting Calling System is selected from a pool, are examples of producing an access code, wherein producing said access code comprises selecting said access code from a pool of access codes as set forth in this element.</p>
	[30b-6] wherein each access code in said pool of access	The Huawei CloudLink Calling System produces an access code, wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address. In the

**CHART C**

<p>codes identifies a respective telephone number or Internet Protocol (IP) network address; and</p>	<p>Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more parts, portions, and/or combinations of information associated with the access code reply message, such as an access code as set forth in element [30b-1], using one or more access servers associated with the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to communicate at least one DNS query asking the Huawei DNS servers for the IP network addresses associated with the Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei CloudLink Calling System, for example, one or more domain names and one or more blocks of IP network addresses owned by Huawei and used by the CloudLink client software application used to obtain the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers are set forth in Appendix A. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone uses the CloudLink client software application to seek one or more IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers from the</li> </ul>
--	--

**CHART C**

		<p>blocks of IP network addressed owned by Huawei. Each IP network address associated with the blocks of IP network addressed owned by Huawei identifies a respective telephone number or Internet Protocol (IP) network address that enables a call to be made to call the callee identified by the callee identifier.</p> <ul style="list-style-type: none"> <li>• In one or more operations associated with producing an access code, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) one or more communications and/or a combination of communications associated with one or more of the geographically situated Huawei CloudLink-enabled Calling servers identified by the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the caller's mobile telephone and the geographically situated Huawei CloudLink-enabled Calling servers communicate to establish the call session information. For example, the caller's mobile telephone uses the CloudLink client software application to seek one or more IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers from the blocks of IP network addressed owned by Huawei to establish the call session information.</li> </ul> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to produce the information by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or the information by the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, wherein the information for providing the mobile telephone with access to the Huawei Cloud Meeting Calling system represents or identifies a telephone number and/or IP address, are examples of producing an access code, wherein each access code in said pool</p>
--	--	---

**CHART C**

		of access codes identifies a respective telephone number or Internet Protocol (IP) network address as set forth in this element.
	[30c] transmitting an access code reply message including said access code, to the mobile telephone.	<p>The Huawei CloudLink Calling System transmits an access code reply message including said access code, to the mobile telephone. In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure includes and/or performs this element using the CloudLink server software application to provide setup, routing, and delivery of non-real time (e.g., messages) and real time (e.g., voice and video calls) communication to and from supported devices using the CloudLink client software applications.</p> <p>In the Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to obtain (or cause to be obtained) the access code request message associated with the caller's mobile telephone as set forth in elements [30a et seq]. The Huawei CloudLink Calling System, for example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to produce (or cause to be produced) the access code as set forth in elements [30b et seq]. For example, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to communicate (or cause to be communicated) to the caller's mobile telephone one or more parts, portions, and/or combinations of information associated with an access code reply message, using one or more means of direct and/or indirect communications and/or a combination of communications to the caller's mobile telephone to implement one or more access servers of the Huawei server infrastructure:</p> <ul style="list-style-type: none"> <li>• In one or more communications and/or a combination of communications associated with transmitting an access code reply message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to communicate (or cause to be communicated) the</li> </ul>



**CHART C**

		<p>communications and/or the combination of communications associated with one or more of the Huawei DNS servers. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure, and/or the Huawei server infrastructure provides access to exchange a message or setup and initiate a CloudLink call. In the Huawei CloudLink Calling System, for example, the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure includes and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei DNS servers, including, for example, one or more DNS replies that respond to the DNS queries associated with the caller's mobile telephone by providing the mobile telephone with one or more IP network addresses associated with Huawei CloudLink-enabled Calling servers geographically situated relative to the caller's mobile telephone based on the location of the caller's mobile telephone. In the Huawei CloudLink Calling System, for example, the Huawei DNS servers communicate at least one DNS reply that identifies the IP network addresses associated with one or more geographically situated Huawei CloudLink-enabled Calling servers using one or more domain names associated with the Huawei CloudLink-enabled server infrastructure. For example, the Huawei DNS servers communicate at least one DNS reply identifying, to the caller's mobile telephone, one or more Huawei CloudLink-enabled Calling servers that are geographically situated with respect to the caller's mobile telephone (e.g., via identifying the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers), based on the geographic location associated with the caller's mobile telephone. Additionally, the Huawei DNS servers, for example, identify the geographically situated Huawei CloudLink-enabled Calling servers to the caller's mobile telephone as having one or more communications channels through which communications between</p>
--	--	---

**CHART C**

	<p>the caller's mobile telephone and the callee's mobile telephone can be conducted (e.g., via identifying the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers).</p> <ul style="list-style-type: none"><li>• In one or more communications and/or a combination of communications associated with transmitting an access code reply message, the Huawei CloudLink-enabled server infrastructure uses the CloudLink server software application to communicate (or cause to be communicated) communication(s) associated with one or more of the Huawei CloudLink-enabled Calling servers. For example, the Huawei CloudLink-enabled Calling servers provides access to exchange messages (including chats, group chats, images, videos, voice messages and files) and make CloudLink calls (voice and video), and the Huawei Calling servers communicate call session information associated with the communications and/or the combination of communications to provide access to exchange messages and make CloudLink calls. In the Huawei CloudLink Calling System, for example, the call session information produced by the Huawei CloudLink-enabled Calling servers to provide access to exchange messages and make CloudLink calls includes and/or is communicated using one or more packets produced (or caused to be produced) by the Huawei CloudLink-enabled Calling servers. The packets may include call session information associated with the Huawei CloudLink-enabled Calling servers in response to a request for call session information associated with the caller's mobile telephone. The call session information associated with the Huawei CloudLink-enabled Calling servers includes the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. The geographically situated Huawei CloudLink-enabled Calling servers may communicate the call session information to identify, to the caller's mobile telephone, the Huawei Calling servers as geographically situated with respect to the caller's mobile telephone using the IP network addresses associated with the geographically situated Huawei CloudLink-enabled Calling servers. In the Huawei CloudLink Calling System, for example, the geographically situated</li></ul>
--	--

**CHART C**

	<p>Huawei CloudLink-enabled Calling servers communicate the call session information based on the geographic location associated with the caller's mobile telephone, and, additionally, communicate the call session information to identify, to the caller's mobile telephone, one or more communications channels through which communications between the caller's mobile telephone and the callee's mobile telephone can be conducted.</p> <p>Individually or in combination with other information, the Huawei CloudLink-enabled server infrastructure using the CloudLink server software application to communicate the information produced by the Huawei DNS servers to provide access to the communication networks, the servers, the services, and/or the other resources associated with the Huawei CloudLink-enabled server infrastructure to exchange a message or setup and initiate a CloudLink call and/or to communicate the call session information produced by the Huawei CloudLink-enabled Calling servers to provide access to exchange a message or setup and initiate a CloudLink call, are examples of transmitting an access code reply message including said access code, to the mobile telephone as set forth in this element.</p> <p>The Huawei CloudLink Calling System enables mobile telephone roaming as described in the '234 Patent and defined in claim 30, literally and/or under the doctrine of equivalents. The Huawei CloudLink Calling System uses access code request/response messages to produce an access code useable by the mobile telephone to initiate a call to a callee. In the Huawei CloudLink Calling System, the access code is based on a location identifier and/or based on a location pre-associated with the mobile telephone. The access code, alone or in combination with other information for example, identifies an IP address associated with one or more Huawei CloudLink-enabled Calling servers having a communication channel through which the caller's mobile telephone may initiate a CloudLink call. In the Huawei CloudLink Calling System, an access code comprises information or a combination of information, such as one or IP addresses associated with one or</p>
--	---

**CHART C**

	<p>more Huawei CloudLink-enabled Calling servers (having communication channels for CloudLink calls between mobile telephones) and/or call session information provided by the Huawei CloudLink-enabled Calling servers that enables a call to be made to a callee. The communications channels also can connect the caller's mobile telephone with other devices using telephone lines in a Public Switched Telephone Network (PSTN). The Huawei CloudLink-enabled Calling servers can direct calls that are received on the communications channels to a gateway leading to the PSTN. The Huawei CloudLink-enabled Calling servers use the communications channels to cooperate with an IP network and the gateway to the PSTN to cause a call involving the caller's mobile telephone to be routed through the IP network and continue to the PSTN. The communication channels provided by the Huawei CloudLink-enabled Calling servers may provide the benefit of callers placing calls to the PSTN at either no additional charge or at a lower additional charge than would be otherwise required. Furthermore, where calls may be placed by callers to the IP network transmission times over the IP network.</p>
--	--

## CHART C

### APPENDIX A

In the Huawei CloudLink Calling System, Huawei purposefully caused or encouraged infringement using Huawei CloudLink to produce an access code based on a location identifier and/or based on a location pre-associated with a mobile telephone and which is used by the Huawei CloudLink-enabled server infrastructure to initiate a call as described in the '234 Patent and defined in the asserted claims, literally and/or using the doctrine of equivalents.

In the Huawei CloudLink Calling System, for example, Huawei actively encourages and enables users of Huawei CloudLink on the Huawei website through one or more electronic storefronts to purchase and use Huawei CloudLink. Huawei actively encourages and enables users of Huawei CloudLink on the Huawei website through one or more support articles to configure and use Huawei CloudLink in the US. Huawei actively encourages and enables users of Huawei CloudLink through one or more support articles to configure and use Huawei devices to make calls between public and private networks, between headquarters and branch offices, even across enterprises as described in the '234 Patent and defined in the asserted claims, literally and/or using the doctrine of equivalents.

A=Intentional Encouragement - Specific Instructions On How To Use Accused Feature



B=Purposeful Causation -Pre-installed Applications That Will Cause Some Users To Infringe

	Category	Third-Party	Description/URL
1.	A,B	Enterprise users	<p>Title: Huawei CloudLink Video Conferencing Platform</p> <p>The Huawei CloudLink Video Conferencing Platform — incorporating multi-architecture computing, converged media types, and open data — provides customers with built-in video applications, a video sharing platform, and easy enablement services. In sum, the platform brings about a digital revolution to working environments.</p>

**CHART C**

			With 4K Ultra-High-Definition (UHD) video and audio, the dedicated video conferencing platform supercharges intelligence, capacity, security, reliability, and Operations and Maintenance (O&M). It efficiently connects a wide range of scenarios — thanks to fully converged architecture — delivering a high-end, supercharged video conferencing experience for users.
--	--	--	--

CHART C

			<div><p>SMC Video Conferencing Service Management System</p><p>Huawei Service Management Center (SMC) is a next-generation video conferencing management system. It supports easy-to-use conference management and control, visualized O&amp;M, and unified scheduling and management of video conference devices and media resources on the entire network. Its service-oriented architecture features high performance, large capacity, and elastic scaling, meeting the needs of video conferences at different scales.</p></div> <div><p>SwitchCenter Call Control and Firewall Traversal Server</p><p>An H.323- and SIP-compliant server that supports call control and traversal between public and private networks. It enables seamless video collaboration between private and public networks, headquarters and branches, even across enterprises.</p></div> <div><p><a href="https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform">https://e.huawei.com/en/solutions/enterprise-collaboration/videoconferencing-platform</a></p></div>
--	--	--	---